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HARVARD UNIVERSITY  
THE JAMAICAN LAND SHELLS  
DESCRIBED BY C. B. ADAMS

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## INTRODUCTION

This catalogue consists of the original descriptions of all the Jamaican land shells described by C. B. Adams, and it includes figures of the extant types. The present work is the last of a number of similar papers (Clench & Turner, 1950; Turner, 1966; Johnson & Boss<sup>1</sup>, 1972) thus completing the republication of Adams' molluscan taxa and the delineation of the available types.

Of the 360 Jamaican land shell names introduced by Adams, we were able to find the type-specimens for all but 27. The names of these taxa, together with those from earlier catalogs for which types could not be found, are

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<sup>1</sup>The lectotype selection of the following species, reported as made by Johnson & Boss (1972), were made earlier by Michelson (1953): *Planorbis decipiens* Adams, *Planorbis pallidus* Adams. Fortunately the same specimens were chosen by Michelson and Johnson & Boss.

listed at the end of this paper with the hope that type-material may be located in private collections or in overlooked museum cabinets.

Most of Adams' species are now placed in genera other than the ones in which he described them, and many others are now considered to be synonyms. We have not attempted to bring the nomenclature of the Adams species up to date or to indicate those which have been synonymized. However, we have in every case included the remarks made by Adams himself when he later changed his mind about species he had described earlier. More recent, though not up-to-date treatment of some of Adams' species can be found in the following publications:

*Helix* in Pilsbry (1889, 1894); *Cylindrella* (= *Urocoptis*) in Pilsbry (1903-4, 1906-7); *Achatina* and *Bulimus* in Pilsbry (1907-8). The shells which Adams placed in the genus *Cyclostoma* are now placed in the families Pomatiasidae and Cyclophoridae. Torre & Bartsch (1938, 1941) and Bartsch (1946), without treating Jamaican shells, erected many new genera and subgenera in the Pomatiasidae (called Annulariidae by them). The Cyclophoridae of Jamaica are included in Bartsch (1942). It must be noted that scholars disagree regarding the validity of many of the conclusions in these latter works (H. B. Baker, 1941: 34; Solem, 1961: 193).

In his short life, Adams described many species, principally from Jamaica, the western Atlantic, and Panama, and he remains undoubtedly the most prolific student of the rich Jamaican land mollusk fauna. Clench & Turner (1950) present a brief account of his life and explain why his Jamaican studies were left woefully incomplete. Though most of his descriptions were more detailed than those written by many of his contemporaries, they cannot be understood, except with the aid of a figure, which Adams in no case provided as far as the Jamaican shells are concerned.

Relatively little work has been done on the Jamaican land mollusks since the time of Adams. One reason may well be the confusion attending so many of the names introduced



by him. It is thus hoped that as a result of the publication of this illustrated catalog, new stimulus will be given to the study of this largely endemic fauna.

#### TYPE-LOCALITIES

As Clench & Turner explain (1950:236), the descriptions Adams published in the "Contributions to Conchology" and elsewhere, were meant to be preliminary to a complete, illustrated monograph which his early death prevented. Hence the locality data for most of the Jamaican land taxa are missing, the word "Jamaica" alone appearing. When this was the only indication given in the original description, we omit the word in this catalog. If more precise localities were given we reproduce these in all cases. Data obtained from labels in the Adams collection and data from his manuscript catalog of shells are included in square brackets. Finally, we supply some localities from the published works of Edward Chitty, a close collaborator of Adams. These we indicate by adding the letters "Ch."

The Adams manuscript catalog, now in the library of the Mollusk Department of the MCZ, includes all the shells which Adams collected in 1844 in Jamaica, marine and freshwater as well as land, and is written entirely in his own hand. The species are numbered consecutively and the land shells comprise the numbers 312 to 407. Though most entries are in ink, Adams apparently later added his new trivial names and a few other notes in pencil. The new species frequently bear some locality data, but many do not, especially those which he received from other collectors like Mr. Richard Hill and Mr. Duff. A brief discussion follows many of the species, those which Adams himself introduced as well as those introduced by other authors. These discussions are written in "speed writing" (vowels omitted) with a few shorthand-like symbols added for the common shorter words. The data include the prevalence of the species — whether rare, occasional, common or abundant — as well as a few ecological notes, e.g., "369. *Bulimus* (*Achatina*) *Phillipsii*, occaly fnd abt lmnstn clffs." Many items are not so easily deciphered as this one. In some cases, notes

on the soft parts under the heading AN. are given. Sometimes Adams supplies a more detailed description of "varieties" of species previously named by other authors.

#### MEASUREMENTS

Clench & Turner (1950: 247, 248) noted that though the descriptions written by Adams were composites, his measurements were of a single specimen. Unfortunately such specimens were not marked or otherwise set aside and it may well be that some were sent out on exchange. Hence attempts to locate the measured specimens to render them lectotypes remain largely unfruitful. In addition, there is evidence to show that in some cases Adams presented the average measurements of a type-lot rather than that of a single specimen. It will be noted, however, that in general the measurements of our lectotypes conform well with the measurements of Adams, given in parts of an inch.

#### ACKNOWLEDGMENTS

We must express our gratitude to Dr. John Peake of the British Museum (Natural History) and to Dr. Robert Robertson of the Academy of Natural Sciences of Philadelphia for making available some type-material not present in the C. B. Adams Collection in the MCZ. We are also indebted to Dr. William J. Clench, Curator Emeritus of the Department of Mollusks of the MCZ, who generously permitted us to make use of his extensive card file of the molluscan taxa introduced by C. B. Adams, thus making our task substantially easier. Mr. R. I. Johnson and Dr. R. D. Turner reviewed the manuscript and offered many valuable suggestions. All the photographs were made by Dr. Boss. Funds for the publication of this work were generously provided by the Milton Fund of Harvard University.

The initials MCZ and ANSP used in this paper stand for the Museum of Comparative Zoology of Cambridge, Massachusetts and the Academy of Natural Sciences of Philadelphia; USNM is the National Museum of Natural History, and BMNH stands for the British Museum of Natural History.

The map, prepared by Adams himself, a photo of which was generously sent us by Dr. J. Knudsen of the Zoological Museum in Copenhagen, Denmark, is here reproduced to show the area in which Adams collected while he was in Jamaica and from where he presumably received snails collected by his correspondents. Thus, anyone looking for type-localities of Adams will be wise to restrict his search to these areas.

## LIST OF TAXA FOR WHICH NO TYPES WERE LOCATED

### JAMAICAN LAND SPECIES

aberrans, *Cyclostoma granosum*  
bicolor, *Helix chittyana*  
brevis, *Spiraxis*  
corpulenta, *Cylindrella maugeri*  
crassa, *Cylindrella maugeri*  
densestriata, *Pupa obesa*  
errans, *Helix spreta*  
fusca, *Cylindrella maugeri*  
gracilis, *Cylindrella maugeri*  
humilis, *Cylindrella*  
integra, *Cylindrella maugeri*  
jacobensis, *Helix*  
leana, *Helicina*  
macrospira, *Bulimus*  
nobilis, *Helix*  
nodulosum, *Cyclostoma*  
osculans, *Achatina*  
pauperata, *Geomelania*  
pellucida, *Helix*  
procerus, *Bulimus*  
pygmaea, *Geomelania typica*  
redfieldiana, *Helix*  
similis, *Helix*  
solitaria, *Achatina*  
sulphurea, *Helix*  
unicolor, *Spiraxis aberrans*  
virgineum, *Cyclostoma*

### MARINE SPECIES

affinis, *Eulima*  
arcuata, *Eulima*  
babylonia, *Chemnitzia*

*brevis*, Phasianella  
*candidissima*, Buccinum  
*consanguinea*, Cytherea  
*effusa*, Litiopa  
*exiguum*, Cerithium  
*exigua*, Mitra  
*exilis*, Chemnitzia  
*fulvo-cincta*, Eulima (?)  
*fusco-lineata*, Pleurotoma  
*gracilis*, Eulima  
*hyalina*, Vitrinella  
*iota*, Eulima  
*latior*, Chemnitzia  
*ligata*, Scarlaria  
*nanum*, Cerithium  
*nigrescens*, Natica jamaicensis var.  
*notabilis*, Rissoa  
*obesa*, Litiopa  
*obeliscus*, Chemnitzia  
*osculans*, Purpura  
*ponderosa*, Haliotis  
*pulchellum*, Cerithium  
*pulchella*, Lucina  
*puncta*, Chemnitzia  
*purpurascens*, Columbella  
*recta*, Eulima  
*reticulata*, Chemnitzia  
*rostratus*, Donax  
*scalariformis*, Truncatella  
*senior*, Triton vestitus var.  
*solitaria*, Eulima  
*substriata*, Chemnitzia  
*subulata*, Chemnitzia  
*sulphurea*, Helix  
*tenera*, Patella

## FRESHWATER SPECIES

*acuminata*, Limnea  
*humilis*, Planorbis  
*obliquus*, Ancyclus

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## MAP 1

*Localities along north shore reading from left to right:* Rio Bueno, Dry Harbor, Runaway Bay, St. Ann's Bay, Ocho Rios, White R. Bay, Rio Nuevo, Oracabessa, Galina Pt., Port Maria, Jack's Bay, Annotto Bay.

*Localities in northern half, left to right:* St. Ann's, Goshen, St. Mary's, Bog Walk, Rio Magno, Wag Water.

*Localities in southern half, left to right:* Spanish Town, Stony Hill, Long Mt., Kingston, Bay of Port Royal, Port Royal, Fort Augusta, Port Henderson, Apostle's Battery.

*In lower left hand corner:* "Reduced from Robertson's map, 1828, for Adams' catalogue of the shells of Jamaica."



**abbreviatum** *Adams Cyclostoma papyraceum* Plate 60, fig. 4  
1851 (April), Cont. to Conch. no. 9: 157; 1851 (May), Ann. Lyc.  
Nat. Hist. New York, 5: 81.

A variety of *Cyclostoma papyraceum* has the whorls much abbreviated; the last whorl is more abruptly rounded, and the aperture is consequently shorter. It may be called ABBREVIATUM.

**aberrans** *Adams Cyclostoma granosum* Type not located  
1851, Cont. to Conch. no. 8: 140.

Another variety of this species occurs, in which the last whorl is much detached from the penult whorl. It is also entirely destitute of the purplish brown color anteriorly. The two individuals, which we have received on loan from Mr. Chitty, make us acquainted with the operculum of this species. It has a spiral lamella, well elevated, of more than three whorls. The variety may be designated by the name of ABERRANS.

**aberrans** *Adams Spiraxis* Type not located  
1850, Cont. to Conch. no. 6: 88.

Shell elongate, nearly cylindrical in the lower half: pale horn color, subtransparent: with microscopic transverse rather distant striæ: apex rather obtuse: spire with the outlines moderately curved: whorls a little more than six, slightly convex, with a distinct suture: aperture ovate, acute above: labrum sharp, well ex-curved, projecting a little in the upper half: columella with a moderately developed spiral lamella. This is probably identical with *Achatina aberrans* Pfr.

Mean divergence about  $13^{\circ}$ ; length of spire .21 inch; total length .28 inch; breadth .065 inch.

[cf. Pilsbry, 1907, p. 37.]

**aculeosum** *Adams Cyclostoma* Plate 56, fig. 6  
1849, Cont. to Conch. no. 1: 2.

Shell short, globose-conic; dingy white; with crowded transverse thin perpendicular lamellæ, which are decus-sated by numerous thin prominent spiral lines, with the points of intersection produced into slender spines, especially in the angle of the deep suture, the spiral lines appearing on the last three whorls; spire with very convex outlines; apex truncate with the loss of two whorls,



three and one half whorls remaining, very convex; last whorl a little detached from the penult whorl near the aperture, but soldered to it by the outer peritreme; aperture exactly circular; inner peritreme well produced; outer peritreme well expanded, scolloped and striated; umbilicus moderately wide, extending through the truncate apex.

The spiral lamella of the operculum is extremely high and but slightly reflected outwards.

Mean divergence  $77^{\circ}$ ; length .56 inch; greatest breadth .6 inch; least breadth .38 inch.

Probably a variety of *C. hillianum* with a more elevated spire. (1850, *ibid.* no. 5: 84.)

**affinis Adams Geomelania**

Plate 81, fig. 1

1850, *Cont. to Conch.* no. 6: 96.

Shell similar to that of *G. expansa*, but the aperture is very deeply effuse anteriorly, and the linguiform part of the lip is excessively produced obliquely, and is narrow: the apex is truncate with the loss of about seven whorls. Dimensions nearly as in *G. expansa*.

**affinis Adams Helicina**

Plate 76, figs. 10-12

1846, *Proc. Boston Soc. Nat. Hist.* 2: 102.

*H. solitariae*, nob., affinis, sed t. spirâ conicâ haud convexâ, instructâ; labro reflexo, infrâ angulato, haud scisso. Hab. Jamaica.

**agassizianum Adams Stoastoma**

Plate 88, figs. 4-6

1851 (April), *Cont. to Conch.* no. 9: 158; 1851 (May), *Ann. Lyc. Nat. Hist. New York*, 5: 82.

Shell subdiscoidal: horn color, subtransparent: with, on the last whorl, four very prominent sharp carinæ, viz., one along the periphery, and two below and one above, the latter appearing only for a short distance on the penult whorl; with a few fine raised spiral lines on the upper part of the whorls and between the carinæ: spire slightly elevated: whorls three and one-half, planulate, with a moderately impressed suture; last whorl planulate beneath, near the end rapidly descending and slightly detached from the penult whorl: aperture very slightly campanulate: labrum slightly reflected, rounded, not scalloped: labium —: umbilicus of moderate size,

with the spiral lamella excessively developed and soldered by its exterior edge to the last whorl, forming over the umbilicus a large arch, which has an opening much larger than the aperture of the shell. In the only specimen now before me, there is, around the lip within, a deposit which contracts the aperture, and rising over the labium in a rather thin curved lamella, extends over half the entrance to the umbilical arch.

Mean divergence  $165^{\circ}$ ; height .065 inch; least breadth .095 inch; greatest breadth .118 inch.

*agnesiana Adams* *Cylindrella*

Plate 61, fig. 5

1849, Cont. to Conch. no. 2: 19.

Shell sinistrorsal, very long, cylindrical in the lower two-thirds, moderately tapering above; white; with very oblique very closely set fine rather sharp striæ which are more oblique in their upper part, — anteriorly with an extremely prominent and acute carina, on the left side of the last whorl with a carina scarcely less prominent and acute, on the upper side with a third carina quite acute and prominent, on the right side subangular; spire with outlines mostly rectilinear, with a waved axis at the tip; apex broadly truncate with the loss of twelve whorls; eighteen to twenty-two whorls remaining, the usual total number being *thirty*; (a short entire specimen has twenty-eight;) whorls flattened or scarcely convex, with a moderately impressed suture; last whorl very much produced obliquely; aperture angulated in proportion to the sharpness of the carinae, trapezoidal, the upper left side being the longer; with one diameter parallel and the other nearly perpendicular to the axis of the shell; tip reflected nearly into the plane of the aperture sharp, rather wide.

Common full size, 1.45 inch long, .17 inch wide: of a large shell, length 1.68 inch; breadth .175 inch; of a small shell, length 1.07 inch; breadth .16 inch: of a small entire shell, length 1.65.

This species probably excels all other shells in the number of whorls.

**album** *Adams Cyclostoma chevalieri* Plate 60, fig. 10  
1851 (April), Cont. to Conch. no. 9: 156; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 80.

Variety **ALBUM** wants the dark brown color, and has the spiral dotted lines more or less indistinct.

**alba** *Adams Cyllindrella* Plate 61, fig. 11  
1849, Cont. to Conch. no. 2: 20.

Shell subfusiform, widest above the middle; pure white; striæ scarcely visible under a common magnifier except on the last two whorls; the last whorl is sharply carinate anteriorly, rather obtusely carinate just above the middle; spire with rectilinear outlines; apex truncate with the loss of thirteen or fourteen whorls, the upper part of the spire before truncation being very long and slender; thirteen or fourteen whorls remaining, slightly convex, with a well impressed suture; last whorl much produced obliquely; aperture sharply angular anteriorly, obtusely so on the right, in the rest well rounded; lip moderately thickened, reflected nearly into the plane of the aperture, shining, sharp, rather narrow.

Length .4 inch; breadth .083 inch.

**albida** *Adams Cyllindrella maugeri* Plate 63, fig. 1  
1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell like var. *citrina*, but with the white stripe reduced to an ill-defined line, slightly tinged with yellow on the penult whorl, with the red tinge very faint.

**albilabre** *Adams Cyclostoma ignilabre* Plate 60, fig. 6  
1851 (April), Cont. to Conch. no. 9: 155; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 79.

*Cyclostoma xanthostoma* and *C. ignilabre* have white-lipped varieties, each of which may be designated by the name *albilabre*.

**albilabre** *Adams Cyclostoma xanthostoma* Plate 59, fig. 7  
1851, Cont. to Conch. no. 9: 155.

*Cyclostoma xanthostoma* and *C. ignilabre* have white-lipped varieties, each of which may be designated by the name **ALBILABRE**.

**albinodatum** *Adams Cyclostoma fimbriatulum* Plate 56, fig. 2  
1850, Ann. Lyc. Nat. Hist. New York, 5: 55; 1851, Cont. to Conch. no. 8: 139.

A variety of *Cyclostoma fimbriatulum* has the transverse ridges rather more numerous and regular than the type of the species, and at their intersection with the spiral ridges more or less developed into small opaque white tubercles: its outer peritreme is not so wide or scabrous, and is less strongly scalloped, and is less flattened. Its size is less than that of the type of the species. It is a local variety, occurring in the centre of Westmoreland, the most western parish, while the typical *C. fimbriatulum* occurs forty miles to the east, in Manchester, near the centre of the island. At the suggestion of Mr. Chitty, I propose for it the name of **ALBINODATUM**.

**albolabris Adams Helicina**

Plate 76, figs. 8 & 9

1849, Cont. to Conch. no. 1: 13.

Shell with a notch like that of *H. maxima*, but the notch is rather large proportionally; in other respects similar to *H. Brownii*, but the whorls are less convex, and the last one much depressed, and the shell more solid, with a greater divergence.

Mean divergence  $110^{\circ}$ ; length .39 inch; greatest breadth .64 inch; least breadth .5 inch.

**alligans Adams Helix**

Plate 64, figs. 1-3

1850, Cont. to Conch. no. 7: 105.

Shell globose conoid: white, with a yellowish brown epidermis: with regular striæ of growth, which are very coarse on the spire, and fine on the last whorl: apex very obtuse: spire well elevated, with the outlines very convex above, nearly rectilinear below: whorls eight, narrow, rather convex, with a well impressed suture; last whorl scarcely convex beneath, with the umbilical region planulate: aperture oblique, rather broad, lunate; with a very prominent sharp stout revolving lamella far within in the lower part of the last whorl: labrum rather thin, sharp: columella moderately dilated, and well rounded: umbilicus wanting. This species resembles *H. epistylium* and *H. epistylioides*. It is most easily recognized by the plane surface of the umbilical region.

Divergence of the upper whorls about  $140^{\circ}$ ; mean divergence about  $95^{\circ}$ ; height 1.05 inch; greatest breadth 1.25 inch; least breadth 1.17 inch.

**alveus Adams Helix**

Plate 64, figs. 4-6

1850, Cont. to Conch. no. 5: 80.

Shell semioval, scarcely subangular on the periphery: whitish, translucent; with excessively fine unequal striæ of growth: spire extremely convex, with a very deep suture; last whorl rather small: aperture small, subquadrangular: labrum sharp and thin: labium with a distinct but not a thick deposit: umbilicus about half as wide as the last whorl, scarcely contracted except quite near the apex, where it consequently terminates very obtusely.

Greatest breadth .3 inch; least breadth .28 inch; height .18 inch.

**amabile Adams Cyclostoma**

Plate 55, fig. 10

1849, Cont. to Conch. no. 1: 2.

Shell globose-conic; dingy or brownish white, with the peritreme radiated with brown; with very numerous transverse thin perpendicular lamellæ, which are decussated and aculeated by numerous spiral very delicate lines, which appear only on the last three whorls; spire with very convex outlines; apex usually truncate, with the loss of less than two whorls; three and one half whorls remaining, with a rather deep suture; last whorl not at all detached from the penult whorl; aperture exactly circular; inner peritreme well produced; outer peritreme greatly expanded, very deeply striated with the lamellæ of growth, which are pectinated parallel to the numerous scollops made by the ends of the spiral lines, perpendicular and less developed against the penult whorl, sinuate and yet more expanded above; umbilicus exhibiting all the whorls and extending through the truncate apex.

The spiral lamella of the operculum is much less elevated than in the preceding [aculeosum], and slopes outward much more. The sculpture of the shell is finer, the umbilicus is narrower, and the peritreme is much more expanded.

Mean divergence  $75^{\circ}$ ; length .5 inch; greatest breadth .55 inch; least breadth .35 inch.

**amabilis Adams Helix**

Plate 83, figs. 4-6

1850, Cont. to Conch. no. 7: 105.

Shell nearly planulate above, very convex beneath, transversely suborbicular: blackish brown, paler on the apex and lip: surface shining, with very fine unequal striæ of growth, and obsolete spiral striæ on both sides of the periphery: spire slightly elevated, convex: whorls four and one-half, slightly convex in the upper part, and concave in the lower part, with a lightly impressed suture; last whorl with the periphery extremely acute: aperture in the form of a spherical triangle, moderately expanded, with three teeth in the lower side, of which the outer two stand over one exterior pit, with a separate impression beneath each one, and the third is also over an exterior furrow: labrum well thickened, very much reflected: umbilicus rather wide, scarcely contracted except near the apex very obtusely. This rare and elegant species is allied to *H. cara* and *H. Chittyana*.

Height .43 inch; greatest breadth 1.05 inch; least breadth .92 inch.

var. of *cara*, (1851, *ibid.* no. 9: 169).

**amandum Adams Cyclostoma**

Plate 56, fig. 1

1849, Cont. to Conch. no. 1: 3.

Shell short, globose-conic; dingy white with three principal and often other brown more or less interrupted spiral bands; with quite regular prominent lamellæ of growth, which are decussated and aculeated by very numerous close-set spiral lines, that appear only on the last three whorls and are most conspicuous just below the suture; spire with very convex outlines; apex truncate with the loss of two whorls; three and one half remaining, very convex, with a deep suture; last whorl a little detached from the penult whorl near the aperture, but soldered to it by the outer peritreme; aperture exactly circular, inner peritreme much produced, regularly striated on the outside parallel to the edge; outer peritreme finely scalloped with the termination of the spiral lines; umbilicus extending through to the truncate apex, and exhibiting all the whorls.

Mean divergence  $88^{\circ}$ ; length .55 inch; greatest breadth .63 inch; least breadth .43 inch.

*Cyclostoma amandum* (p. 3 of C. C.) is probably identical with *C. scabriculum*, Sowb. (1851, *ibid.*, no. 9: 154).

**ambigua Adams** *Cylindrella*

Plate 61, fig. 21

1849, Cont. to Conch. no. 2: 21.

Differs from *C. rosea*, Pfr., in having the outlines more convex, the whorls very deep. If not a monstrosity, it is probably a good species; but from a single specimen I am unable to decide.

The dimensions of the type are the following: length .73 inch; breadth .26 inch.

var. of *rosea* Pfr., (1851, *ibid.* no 5: 183).

**ambigua Adams** *Helix*

Plate 74, figs. 1, 2

1849, Cont. to Conch. no. 3: 35.

A single individual occurs, which is like *H. similis*, but smaller; with the spire more elevated, the columella less oblique, and the anterior part of the lip more directly transverse, with a small umbilicus. The suture is deeper than in *H. similis* or in *H. arboreoides*, between which this shell is in most characters intermediate. Having but one specimen, I do not regard the species as fully established.

Greatest breadth .46 inch; least breadth .42 inch; height .25 inch.

**ampliata Adams** *Helicina*

Plate 76, figs. 5-7

1850, Cont. to Conch. no. 7: 101.

Shell conic: whitish (?): with a few excessively fine striæ of growth; otherwise smooth and shining: apex subacute: spire much elevated, with the outlines moderately curvilinear: whorls five and one half, a little convex, with a distinct suture; last whorl subangular, anteriorly subplanulate: aperture transversely much dilated, depressed in the upper part of the right side: labium with a large thick deposit. This shell resembles *H. Jamaicensis* Sowb., but is much larger, much less globose, and more conic.

Mean divergence about  $90^{\circ}$ ; height .6 inch; greatest breadth .67 inch; least breadth .57 inch.

**angiosoma** *Adams Achatina*

Plate 79, fig. 1

1849, Cont. to Conch. no. 2: 25.

Shell fusiform; pale reddish, with transverse rather narrow dark brown stripes, of which there are about four on each whorl except on the first three; with extremely fine crowded transverse striæ; spire with moderately convex outlines; apex rather small; whorls seven, moderately convex, with a well impressed suture; aperture very long and narrow; labrum very thin and sharp; columella produced to an extraordinary degree, straight, a little twisted.

Mean divergence  $34^{\circ}$ ; length .72 inch; breadth .22 inch; length of aperture .36 inch.

[Syntype specimen figured by Pilsbry, 1907a, pl. 16, fig. 7.]

**angulata** *Adams Helicina neritella*

Plate 76, figs. 3, 4

1851 (April), Cont. to Conch. no. 9: 159; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 83.

Of *Helicina neritella*, a variety, ANGULATA, is distinguished by an angular periphery, and by a double and much thickened lip.

**angustior** *Adams Succinea*

Plate 63, fig. 13

1849, Cont. to Conch. no. 3: 38.

Shell very long ovate; brownish horn colored; well covered with striæ of growth, not shining; spire long; apex acute; whorls three and one-half, long, rather convex, with a well impressed suture; aperture oval, rather small, not oblique. A large specimen is .3 inch long and .16 inch broad; length of aperture .2 inch; breadth .12 inch.

**angustispira** *Adams Helix*

Plate 85, figs. 7-9

1849, Cont. to Conch. no. 3: 36.

Shell somewhat hemispherical; pale horn colored; very finely striated transversely; spire depressed conic, with rectilinear outlines; apex very small and acute; whorls five and one half, quite convex, narrow, high, with a rather deep suture; aperture lunate, obliquely very long and narrow; umbilicus rather small.

Mean divergence about  $123^{\circ}$ ; greatest breadth .125 inch; least breadth .115 inch; height .98 inch.



**anomalus** *Adams* **Bulimus**

Plate 80, fig. 18

1849, Cont. to Conch. no. 2: 28.

Shell with the general form and sculpture of Truncatella, cylindrical; whitish; with very numerous strong transverse ribs, which are continued quite into the suture; spire with rectilinear outlines; apex —? (the apex in the only specimen before me is broadly truncate,) six whorls remaining, which are moderately convex, somewhat shouldered, with a well impressed suture; last whorl rather long, with a slight constriction around the middle, which also modifies the aperture, which is rather long, slightly acute above, well rounded below; labrum thin and sharp; columella stout, very prominent, arcuated or twisted in a loose spiral to an extraordinary degree.

Mean divergence  $12^{\circ}$ ; length .23 inch; breadth .075 inch; length of aperture .07 inch.

Referred to Spiraxis (1851, *ibid.* no. 9: 168).

**anomalum** *Adams* **Cyclostoma**

Plate 56, fig. 5

1850, Cont. to Conch. no. 6: 90.

Shell short, globose-conic: on the upper whorls very pale brown; on the last two whorls with numerous fine spiral lines of very pale brown on the ridges and of dark brown in the interspaces: with very numerous spiral ridges, of which a few small ones alternate with the larger, decussated by numerous inequi-distant transverse perpendicular lamellæ, which are developed, at the intersections, into triangular points thickened at their bases: spire short, with the outlines curvilinear: apex usually truncate, with the loss of one and one half or two whorls: whorls remaining about three and one-half, very convex, with a very deep suture; last whorl moderately detached from the penult whorl near the aperture: aperture orbicular; contracted slightly at the margin, which is neither thickened nor expanded: umbilicus nearly half as wide as the last whorl. Operculum with the upper edges of the whorls moderately elevated into a spiral lamella, covered with irregular oblique lamellæ, extremely convex externally and concave internally: the

diameter of the operculum is .18 inch; the depth of the concavity from the inner side is .07 inch!

Mean divergence about  $85^{\circ}$ ; height .47 inch; greatest breadth .5 inch; least breadth .385 inch.

Is *Jamaicia* (1850, *ibid.* no. 5: 88).

**anthoniana Adams Helix**

Plate 83, figs. 7-9

1849, Cont. to Conch. no. 3: 35.

Shell conic; whitish; with a thin pale brown epidermis; with excessively fine striæ of growth; spire with rather convex outlines, well elevated; apex subacute; whorls seven, quite convex, with a deep suture; aperture sublunate; lip sharp, a little reflected in the columellar portion; umbilicus narrow.

Mean divergence  $98^{\circ}$ ; greatest breadth .42 inch; least breadth .375 inch; height .35 inch.

**anthonianum Adams Stoastoma**

Plate 89, figs. 4-6

1850, Ann. Lyc. Nat. Hist. New York, 5: 67; 1851, Cont. to Conch. no. 8: 151.

This shell is like the preceding [*petitianum*] but the spire is much depressed; the spiral lines are rather stronger; and the aperture is very campanulate, the labrum being very much produced before the deep constriction.

Mean divergence about  $145^{\circ}$ ; height, .035 inch; greatest breadth .07 inch; least breadth .055 inch.

**apex Adams Helix**

Plate 85, figs. 19-20

1849, Cont. to Conch. no. 3: 36.

[Lectotype selected and figured by Pilsbry, 1942, p. 56.]

Shell discoidal; whitish; with microscopic spiral striæ, spire scarcely elevated, convex; apex very obtuse; whorls four, cylindrical, with a deep suture; aperture nearly circular; lip thin and sharp; umbilicus very wide.

Greatest breadth .073 inch; least breadth .065 inch; height .02 inch.

**arboreoides Adams Helix**

Plate 74, figs. 3, 4

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[Graywycke]

H. t. discoideâ, tenui, nitidâ, diaphanâ, pallidè corneâ, exilissimè striatâ; anf. 7, angustis, a lineâ subsuturali impressis; ultimo rotundato, subtùs latè et profundè indentato; aperturâ sub-ovata, ab anf. penultimo valdè invasâ; labro tenuissimo. Div  $140^{\circ}$ ; alt. .3 poll.; lat. max. .59 poll.; lat. min. .51 poll.

*haldemaniana* "Ads." is a synonym (1851, Cont. to Conch. no. 8: 129).

**armatum Adams Cyclostoma**

Plate 91, fig. 17

1849, Cont. to Conch. no. 1: 10.

Shell much elongated; brown, with a reddish and cinereous tinge, usually darker at the summit, rarely with a spiral series of dark brown spots; with very closely set strong transverse raised lines (the whitish color of which gives the ashy tinge to the general aspect), which at the upper extremity are enlarged, mostly in fours with one unenlarged line between, into a closely set series of strong sutural crenulations, — without spiral striæ; spire with outlines scarcely convex; apex truncate with the loss of two and one-half whorls; five moderately convex whorls remaining, with a well impressed suture; last whorl near the end a little detached from the preceding; aperture ovate-orbicular, well angulated above, white within next the lip, with the fauces yellowish brown; lips single, slightly spread and reflected into the plane of the aperture, a little alate at the angle; umbilicus very small.

Mean divergence  $30^{\circ}$ ; length .64 inch; greatest breadth .35 inch; least breadth .26 inch.

**aspera Adams Cyllindrella**

Plate 62, fig. 3

1849 Cont. to Conch. no. 2: 21.

Shell ovate-cylindrical, moderately elongated; red mostly, with white anteriorly, or sometimes white in half of the shell; with very coarse oblique striæ, which are most arcuate at or below the middle, with the intervening raised lines acute-edged, with a nearly obsolete carina anteriorly, and another more prominent midway between this and the middle of the last whorl; spire with quite convex outlines; apex truncate with the loss of — whorls; nine or ten whorls remaining, quite convex, with a well impressed suture; last whorl moderately produced, subangular on the right side; aperture large, spreading, subrectilinear above, in the rest orbicular, slightly effuse anteriorly; lip rather wide, not very sharp, reflected nearly into the plane of the aperture.

Length .94 inch; breadth .3 inch.

**augustae Adams Cyclostoma**

Plate 91, fig. 11

1849, Cont. to Conch. no. 1: 7.

Shell much elongated, conic; shining, whitish or brownish, with six spiral series in three pairs of narrow dark brown spots which are either oblong or sagittate, the middle pair being more or less confluent, — with also a broad band and some more or less distinct lines of dark brown around the umbilical region; with transverse striæ very strong on the upper whorls, and feeble and distant on the last whorl, decussated by faint spiral striæ; spire with the outlines scarcely convex; apex truncate with the loss of two or three whorls; five whorls remaining, with a moderately impressed suture, which is subcrenulate by the enlargement of the upper ends of the transverse lines in twos and threes; aperture ovate-orbicular, oblique; inner peritreme a little produced and reflected; outer peritreme well expanded, white, in some yellowish, more or less concave, much produced above and inflected forming a deep pit, before the umbilicus reflected far back into a deep sinus, with an alate expansion next to the sinus; umbilicus very small.

Mean divergence  $38^{\circ}$ ; length .9 inch; greatest breadth .52 inch; least breadth .4 inch.

Var. *a*, with the outer peritreme deep red, and the spiral striæ stronger; of which I have seen but two individuals.

**augustae Adams Cyliindrella**

Plate 61, fig. 1

1850, Cont. to Conch. no. 5: 83.

Shell not very slender, cylindrical in the lower three-fourths, slightly tapering above: pale wax color: with very minute crowded transverse striæ; anterior spiral keel not very prominent: apex broadly truncate, with the loss of — whorls; whorls remaining nine, a little convex, with a well impressed suture: aperture moderately produced beyond the penult whorl, suborbicular, a little dilated at the left of the upper side: lip well expanded, moderately reflected. This species is allied to the preceding [*hollandi*] and to *C. montana*.

Length .65 inch; breadth .17 inch.

Var. of *hollandi* Ad. (1851, *ibid.* no. 9: 183).

**aurora Adams Cyclostoma**

Plate 59, fig. 11

1849, Cont. to Conch. no. 1: 11.

Shell much elongated, ovate-conic; very pale orange, sometimes with very faint spiral darker lines, white next the aperture; with very strong not closely set whitish transverse raised lines, and two or three very faintly impressed spiral striæ on the upper part of the whorls; spire with slightly convex outlines; apex truncate with the loss of three whorls; four and one-half whorls remaining, moderately convex, with a well impressed suture; aperture ovate, moderately spreading, appressed a little to the penult whorl below the angle above, which is detached; lip rather thin, scarcely spreading and but little reflected, umbilicus very small, with strong spiral striæ.

Mean divergence  $30^{\circ}$ ; length .65 inch; greatest breadth .31 inch; least breadth .26 inch.

Given to me in Jamaica as a native species.

Not certainly known from Jamaica (1851, *ibid.*, no. 10: 177).

**avena Adams Cyclostoma**

Plate 91, fig. 12

1849, Cont. to Conch. no. 1: 6.

Shell small, elongate; whitish, more or less tinged with brown, with numerous small distant brown dots in spiral series on the lower whorls, on the upper whorls bluish gray; with closely set transverse moderately elevated lines, some of which, in twos or rarely in threes, are more developed at the sutures into small white crenulations; spire with moderately convex outlines; apex truncate with the loss of two or three whorls; about four and one-half whorls remaining, very convex, with a deep suture; last whorl much detached from the penult whorl near the aperture; aperture suborbicular, contracted a little on the left side; inner peritreme a little produced; outer peritreme rather small, much less extended on the left than on the right side, not reflected quite back to the plane of the aperture, produced above into a concave angle; umbilicus very small.

Mean divergence  $23^{\circ}$ ; length .32 inch; greatest breadth .14 inch; least breadth .11 inch.

**beardsleana Adams *Cylindrella***

Plate 81, fig. 11

1849, Cont. to Conch. no. 2: 19.

Shell quite regularly conic, but much elongated; whitish; with closely set small obtuse ribs which are not oblique, not carinated anteriorly; spire with rectilinear outlines; apex truncate with the loss of six whorls; eight whorls remaining, quite convex, with a deep suture; last whorl a little detached, angular above; lip sharp, reflected opposite to the penult whorl, otherwise scarcely reflected.

Length .3 inch; breadth .07 inch.

Is *Geomelania* (1850, *ibid.*, no. 5: 89).

**bicincta Adams *Cylindrella maugeri***

Plate 63, fig. 2

1851 (April), Cont. to Conch. no. 9: 164; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 88.

Shell either short and robust, or of medium size and form: pale yellow in the upper whorls and in the lip and behind it; on the back of the last whorl pure white with two brownish black stripes; otherwise pearl white: with fine striæ on the last half of the last whorl. This shell appears to be similar to Dr. Pfeiffer's var.  $\gamma$ . Inhabits Westmoreland.

**bicolor Adams *Helix chittyana***

Type not located

1851 (April), Cont. to Conch. no. 9: 169; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 93.

*Helix Chittyana*, var. BICOLOR, is distinguished by a white lip, and by having the whole lower surface, except the whitish zone at the periphery, of a blackish brown.

**bidentata Adams *Proserpina***

Plate 85, figs. 1, 2

1850, Cont. to Conch. no. 5: 81.

This shell is also very similar to *P. nitida*, but is much smaller: besides the deep spiral line which accompanies the suture, there are several other very feebly impressed spiral lines; the surface is not so smooth although equally brilliant: the color is yellowish green: the aperture has only two teeth, one near the base of columella, and another a little above it. Specimens of *P. pulchra*, of the same size, have five teeth well developed, as have also the least of our specimens of *P. nitida*.

Greatest breadth .21 inch; least breadth .13 inch; height .08 inch.

**binneyanum** "Adams" Pfeiffer *Cyclostoma*

1858, Mon. Pneumon. Viv., suppl. 1, p. 108.

Not an Adams' name.

**blandiana** Adams *Achatina*

Plate 79, fig. 2

1850, Cont. to Conch. no. 5: 83.

Shell regularly conic, but very slender: very pale brown or horn color, with very dark brown transverse broad bent stripes, about three on each whorl, less distinct on the upper whorls, and wanting on the nuclear whorls: with rather fine regular transverse striæ; rather thickly and very finely crenulated at the upper margin of the whorls: apex moderately obtuse, smooth on the first whorl: spire very long, with the outlines rectilinear: whorls nine, moderately convex, slightly and acutely shouldered above, with a well impressed suture: aperture rather long-ovate, small: labrum sharp, very thin: columella nearly straight. This species is most nearly allied to *A. propinqua*.

Mean divergence about  $16^{\circ}$ ; length .62 inch; breadth .135 inch; length of aperture .16 inch.

[Syntype specimen figured by Pilsbry 1907a, pl. 63, figs. 48, 49.]

**blandianum** Adams *Cyclostoma*

Plate 56, fig. 7

1849, Cont. to Conch. no. 1: 3.

Shell like *C. lima*, Ad. but the spiral lines are less distinct, and both the spiral and transverse lines are finer and more closely set; the shell is shorter and the whorls are narrower; color pale brown to white, with more or less distinct interrupted spiral brown lines; outer peritreme very much expanded, especially on the left side, slightly crenulated, above produced into a broad sinus; umbilicus narrow and extending through the truncate apex.

Mean divergence  $60^{\circ}$  to  $62^{\circ}$ ; length .7 inch; greatest breadth .65 inch; least breadth .45 inch.

**blandiana** Adams *Helix*

Plate 73, figs. 5, 6

1850, Cont. to Conch. no. 7: 107.

Shell transversely ovate, quite convex above, moderately convex beneath: brown, paler on the upper whorls and on the lip: with rather coarse transverse striæ:

apex rather obtuse: spire with the outlines quite convex: whorls five, quite convex, with a well impressed suture; last whorl with the periphery scarcely sub-angular: aperture oblique, lunate, considerably modified by the intrusion of the penult whorl: labrum rather thin, moderately reflected: umbilical region slightly indented.

Height .42 inch; greatest breadth .63 inch; least breadth .55 inch.

**blandianum Adams Stoastoma**

Plate 87, figs. 16-18

1849, Mon. Stoastoma, p. 6.

*S. testâ subdiscoideâ, albidâ vel corneâ, carinis spiralibus exilibus multis ornatâ; spirâ paululum elevatâ; anfractibus 3½; aperturâ companulatâ; labro multò producto, vix pectinato; labio multò soluto; umbilico lato, haud profundo, lamelli spirali instructo.*

Form — subdiscoidal;

color — dingy white;

sculpture — many raised slender spiral lines, of which five or six are visible on the spire;

spire slightly elevated, convex;

whorls 3 1-2, moderately convex, with a moderately impressed suture; last whorl rather large, well rounded; aperture well expanded;

labrum well produced, not very abruptly produced above, slightly scolloped between a few distant angles;

labium widely detached from the penult whorl, slightly curved;

umbilicus broad, shallow, with the spiral lamella continued into the lower extremity of the labrum.

Mean divergence 150° to 155°; length .025 inch; greatest breadth .06 inch; least breadth .05 inch. A large specimen has the following dimensions; length .036 inch; greatest breadth .075 inch; least breadth .06 inch.

**brevior Adams Helix**

1851, Cont. to Conch. no. 9: 185.

New name for *Helix depressa* Adams 1845, preoccupied.

**brevis Adams Helix**

Plate 83, figs. 13, 14

1849, Cont. to Conch. no. 3: 35.

Shell subdiscoidal; whitish; smooth and shining; spire



convex, but little elevated; apex obtuse; whorls more than four, slightly convex, short, with a moderately impressed suture; last whorl a little flattened beneath; aperture lunate; lip thin and sharp; umbilicus rather small.

Greatest breadth .15 inch; least breadth .13 inch; height .04 inch.

**brevis Adams Spiraxis**

Type not located

1851 (April), Cont. to Conch. no. 9: 168; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 92.

Shell long-ovate: pale horn color, translucent: shining, smooth anteriorly, otherwise with rather numerous microscopic striæ: spire with the outlines moderately curvilinear: apex rather small: whorls six, moderately convex, with a well impressed suture: aperture ovate: labrum thin and sharp: columella with the edge moderately projected into the aperture.

Mean divergence about  $20^{\circ}$ ; length .19 inch; breadth .07 inch; length of aperture .08 inch.

**bronnii Adams Cyclostoma**

Plate 60, fig. 1

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

[near Rock Springs, in W part of St. Mary's]

C. t. fuscâ, interdum subalbida, decollatâ; anf.  $2\frac{1}{2}$  perditis; anf. reliquis 4, suprâ exilè crenulatis, striis longitudinalibus exilis-simis parallelis creberrimis — eleganter insculptis; labro crassiusculo, suprâ in triangulum parvum concavum producto; operculo albo, subduplici. Div.  $58^{\circ}$ ; alt. .67 poll.; lat. max. .5 poll.; lat. min. .35 poll.

**buddiana Adams Helix**

Plate 72, figs. 1, 2

1851 (April), Cont. to Conch. no. 9: 171; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 95.

Shell subglobose, obliquely ellipsoidal: white, with a very thin yellowish brown epidermis: with very fine striæ of growth; some specimens have, on the last whorl, lightly impressed microscopic spiral lines, and rarely its surface is microscopically punctulated: spire convex: apex very obtuse: whorls nearly four and one-half, convex, with a rather deep suture: last whorl very large and globose: aperture rather large, with a semicircular outline on the right, and a sinuate outline on the left: labrum thin and sharp: labium with a dilated closely ap-

pressed deposit: umbilicus wanting. Allied to *H. tunicata* and *H. munda*. Inhabits Westmoreland.

Greatest breadth .65 inch; least breadth .55 inch; height .53 inch.

**campbelli Adams Cyclostoma**

Plate 59, fig. 6

1851 (April), Cont. to Conch. 9: 154; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 78.

Shell elongate conic: color ? with numerous transverse moderately elevated lamellæ: apex acute: spire not truncated, with the outlines but little convex: whorls six and one-half, quite convex, with a rather deep suture; last whorl at the end much detached from the penult whorl, and angular above: aperture nearly circular, with the inner peritreme moderately produced, and the outer peritreme small and expanded into the plane of the aperture: umbilicus small.

Mean divergence about 40°; length .36 inch; greatest breadth .2 inch; least breadth .16 inch.

**candescens Adams Helix**

Plate 68, figs. 11-13

1850, Cont. to Conch. no. 5: 80.

Shell like *H. invalida*, but white or yellowish white, with a line of clearer white along the periphery: spire much less elevated, and more regularly convex: surface smooth, or granulated on the last whorl, rarely granulated on the penult whorl: suture well impressed: aperture as in *H. invalida*, but the lip and teeth are more robust, and their external furrows are very long and deep: umbilicus wanting.

Greatest breadth .84 inch; least breadth .74 inch; height .43 inch.

var. of *sinuata* Müll. (*ibid.* no. 9: 185).

**cara Adams Helix**

Plate 70, figs. 1-3

1849, Cont. to Conch. no. 2: 29.

Shell convex above, more convex beneath, with a very acute periphery; brown, with a white lip; surface smooth, or almost microscopically granulated and punctulated, with a smooth shining epidermis; spire moderately and somewhat convexly elevated; whorls five, scarcely convex, with a suture not impressed; aperture subtriangular, with a very thick, strong lip, which has

along the lower side within three teeth, of which the outer is larger, and is double at the extremity when mature, or nearly to the base when first formed; the inner tooth is small and very near the columella; the two outer teeth have exterior pits proportionate to their size; umbilicus small, entirely concealed in the old shells.

Greatest breadth 1.4 inch; least breadth 1.2 inch; height .55 inch.

**carinata** Adams **Helix consanguinea** Plate 68, figs. 2-4  
1851 (April), Cont. to Conch. no. 9: 171; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 95.  
Belle Isle, Westmoreland.

Another variety, **CARINATA**, is more sharply and prominently carinated at the periphery. It inhabits the other end of the island, at Belle Isle, in Westmoreland.

**carnea** Adams **Cylindrella** Plate 82, fig. 7  
1849, Cont. to Conch. no. 2:22.  
New name for *rosea* Adams, *non* Pfeiffer 1844.

*C. rosea*, Ad. Proc. Boston Soc. Nat. Hist. Feb. 18, 1846, received the name of *C. carnea* in my printed catalogue of shells Jan. 1, 1847. [(sic) *carnea* is not printed in the catalog of 1847.]

**cerina** Adams **Cylindrella carnea** Plate 62, fig. 8  
1849, Cont. to Conch. no. 2: 22.

*C. carnea* var. *cerina* differs from the type chiefly in its wax color and in being a little more slender.

**chevalieri** Adams **Cyclostoma** Plate 60, fig. 2  
1851 (April), Cont. to Conch. no. 9: 155; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 79.

Shell ovate conic: brown, darker at the summit, white along the suture, around the umbilicus, and with the peritreme white; also with several spiral series of dark brown dots, of which series two on the upper whorls and three on the last are most conspicuous: smooth and shining: spire rather convex, truncated with the loss of more than two whorls; about four whorls remaining, which are quite convex, with a moderately depressed suture: aperture nearly circular; the inner peritreme slightly developed; outer peritreme smooth and widely expanded, (especially above and on the left side,) well appressed to the penult whorl: umbilicus very small.

Mean divergence about  $45^{\circ}$ ; length .68 inch; greatest breadth .48 inch; least breadth .35 inch.

The operculum is similar to that of *C. album*, being subspiral, with oblique striæ.

**chittiyana Adams Helix**

Plate 70, figs. 4-6

1849, Cont. to Conch. no. 2: 30.

Shell convex above, more convex beneath and more widely so that the preceding [*cara*], next to the acute periphery a little concave above and very convex below; brownish white, with a zone of deep brown on both sides of the whitish periphery, with a brown lip; surface slightly striated, shining, with a smooth shining brown epidermis, which is deciduous in narrow irregularly zig-zag portions; spire convex, moderately elevated; whorls four and one-half, nearly flat, with a suture not impressed; aperture subtriangular but much modified by the convexity of the last whorl, with four teeth, of which the outer two stand over one exterior pit, and of which the inner one is small, very near the columella, and without any exterior pit.

Greatest breadth 1 inch; least breadth .95 inch; height 5 inch.

**chittyanum Adams Stoastoma**

Plate 88, figs. 10-12

1849, Mon. Stoastoma, p. 10.

*S. testâ conicâ, depressâ, pallidè cerinâ vel corneâ, carinis spiralibus exilibus multis ornatâ; spirâ paululum elevatâ; anfractibus  $4\frac{1}{2}$ , ultimo dilato; aperturâ semicirculo paululum majore; labro haud multum producto, vix pectinato; labio multum soluto; umbilico parvo, partim oblecto.*

Form — depressed conic;

color — pale reddish brown, or horn color;

sculpture — many raised spiral lines, of which five or six are visible on the spire;

spire but little and concavely elevated;

whorls  $4\frac{1}{2}$ , moderately convex, with a well impressed suture; last whorl large and spreading;

aperture scarcely spreading, rather larger than a semicircle;

labrum moderately and above not very abruptly produced, scarcely pectinated by the larger spiral lines;

labium well detached from the penult whorl, curved in the lower part;

umbilicus rather small, nearly concealed by the spiral lamella, which is continued into the lower extremity of the labrum.

Mean divergence  $110^{\circ}$ ; length .065 inch; greatest breadth .095 inch; least breadth .08 inch.

**chittyi Adams Cyclostoma**

Plate 56, fig. 4

1849, Cont. to Conch. no. 1: 1.

This species differs from *C. fimbriatulum* Sowb. in the smaller and more closely set spiral carinæ, of which there are three more on each whorl, — and by the scollops of the outer peritreme, which are smaller and more numerous, corresponding with the carinæ.

The many individuals of *C. fimbriatulum* which I have seen are quite constant in their peculiarities. Of *C. Chittyi*, however, I have but one individual. The value of the species will be more certainly established by the discovery of additional specimens.

**cinerea Adams Cyliindrella maugeri**

Plate 86, fig. 17

1851 (April), Cont. to Conch. 9: 166; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 90.

Shell of medium size and form: pale ash color; black at the summit: with transverse broad umber stripes, which are numerous and deeply colored on the upper whorls, distant and pale on the middle whorls, and obsolete on the last whorl; with a dark brown line along the suture and another on the anterior keel; lip white, with a black stripe behind on the right, and a black spot behind on the left: back of the last whorl distinctly striated, otherwise very lightly striated. Inhabits near Accompong town, in the borders of St. Elizabeth, St. James, and Trelawney.

**citrina Adams Cyliindrella maugeri**

Plate 63, fig. 3

1851 (April), Cont. to Conch. no. 9: 164; 1851 (May), Ann. Lyc. Nat. New York, 5: 88.

Shell more or less robust: sulphur yellow; sometimes pearl white when the lip is pure white; with a pure white, well defined, narrow stripe next below the suture; tinged with red at the end of the last whorl: with ex-

cessively fine striæ behind the lip only. Inhabits Manchester.

**citrina Adams** *Helicina maxima* Plate 76, figs. 1, 2  
1850, Ann. Lyc. Nat. Hist. New York, 5: 50; 1851, Cont. to Conch.  
no. 8: 134.

A variety of *Helicina palliata* is remarkable for its pale lemon yellow color; it may be designated by the name of CITRINA.

**citrino-labris Adams** *Helicina* Plate 77, figs. 1, 2  
1849, Cont. to Conch. no. 1: 14.

Shell brown or lemon yellow, very solid, outer lip very thick and always lemon yellow; in other characters like *H. albolabris*, of which it may possibly be a variety with a greater divergence. The epidermis is very finely but not densely hirsute.

Mean divergence  $123^{\circ}$ ; length .39 inch; greatest breadth .67 inch, least breadth .53 inch.

**columellata Adams** *Helix* Plate 72, figs. 3, 4  
1840, Cont. to Conch. no. 5: 80.

Shell convex-conic above, moderately convex beneath: white under a yellowish or greenish brown epidermis: with fine irregular striæ of growth; sometimes with numerous microscopic punctures: apex subacute: spire very much elevated, nearly conic: whorls nearly six, moderately convex, obtusely a little shouldered, with a deep suture; last whorl slightly flattened above the middle: aperture in the form of a spherical triangle: labrum sharp: columella much and very obliquely produced, curved, very thick, abruptly terminating, opaque white: umbilical region not indented. — This species has been confounded with *H. tenerrima*, and distributed as such.

Greatest breadth .63 inch; least breadth .56 inch; height .47 inch.

**columna Adams** *Cylindrella* Plate 61, fig. 22  
1849, Cont. to Conch. no. 2: 22.

Perhaps a variety of *C. brevis* Pfr. But the spire has rectilinear and almost exactly parallel outlines in its lower two-thirds or three-fourths; the shell is longer; the whorls are wholly flattened; the lip is more widely spread; and the striæ are as small as in the more finely striated varieties of *C. brevis*.

Length .72 inch; breadth .22 inch; of another, length .575 inch; breadth .18 inch.

**concentricum** *Adams Cyclostoma*

Plate 60, fig. 3

1849, Cont. to Conch. no. 1: 4.

This may be a variety of *C. variabile*; it is chiefly distinguished by having the lamellæ between the inner and outer peritremes so much produced as to appear like numerous concentric margins; by having the lip reflected farther back; by a more slender general form, the mean divergence being  $33^{\circ}$  to  $35^{\circ}$ . The lip is reddish purple, with darker rays of the same conspicuous in the more simple lip of the young, and the square sutural spots are always faint.

Var. of *variabile* (1851, *ibid.*, no. 9: 154).

**concinna** *Adams Cyliindrella maugeri*

Plate 63, fig. 4

1851 (April), Cont. to Conch. no. 9: 164; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 88.

Whitney River estate, east part Manchester.

Shell small but robust: on the back of the last whorl pure white, with a short black brown stripe; lip white; otherwise pearl white, more or less tinged with pale yellow, especially on the middle whorls: slightly striated on the back of the last whorl. Inhabits Whitney River estate in the east part of Manchester.

**conica** *Adams Cyliindrella maugeri*

Plate 63, fig. 5

1851 (April), Cont. to Conch. no. 9: 166; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 90.

Shell widest in the penult whorl: white, with a tinge of red at both ends.

**conica** *Adams Geomelania*

Plate 90, fig. 14

1850, Cont. to Conch. no. 6: 97.

Shell elongate conic; whitish: with, on each whorl, thirty-five transverse slender moderately arcuated ribs: spire with rectilinear outlines: apex truncate with the loss of five whorls: whorls remaining seven, moderately convex, with a well impressed suture: aperture ovate, rather widely effuse: labrum a little expanded and reflected, with the linguiform part excessively produced obliquely, and acute, at the lower part of the right side.

Mean divergence about  $13^{\circ}$ ; entire length .39 inch; greatest breadth .09 inch; least breadth .08 inch.

**connectens Adams Helix**

Plate 64, figs. 9, 12

1850, Cont. to Conch. no. 7: 105.

Shell hemispherical: white, with a horn colored epidermis: with rather coarse striæ of growth: apex very obtuse: spire with regular and very convex outlines: whorls nine, very narrow, moderately convex, with a well impressed suture: last whorl slightly convex beneath, with the umbilical region slightly concave: aperture nearly transverse, rather narrow, lunate; with a very prominent sharp stout revolving lamella far within the lower part of the last whorl: labrum thin and sharp: labium in old shells, with a rather thick deposit: columella produced very obliquely; umbilicus wanting.

Mean divergence about  $110^{\circ}$ ; height .68 inch; greatest breadth 1 inch; least breadth .95 inch.

**consanguinea Adams Helicina**

Plate 77, figs. 3, 4

1850, Ann. Lyc. Nat. Hist. New York, 5: 50; 1851, Cont. to Conch. no. 8: 134.

Shell subglobose, moderately thick: dark brownish red, with the lip white; with a somewhat hirsute epidermis, having the projecting points spirally arranged: with the striæ of growth quite distinct: apex obtuse: spire with the outlines much curved: whorls five, moderately convex, with a well impressed suture: aperture semiorbicular; lip sinuous above, moderately thickened and sharp, but well reflected except at the extremities; with the slit broad and shallow.

Mean divergence  $110^{\circ}$ ; greatest breadth .6 inch; least breadth .05 inch; height .45 inch.

The slit, or notch, as it might be called with equal propriety, is uniform in all the specimens before me. In this, as in most other characters, the species is intermediate between *H. hirsuta* and *H. albolabris*. It occurs in the parish of Westmoreland, the west part of the island.

**consanguinea Adams Helix**

Plate 68, figs. 5-7

1851 (April), Cont. to Conch. No. 9: 170; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 94.



Shell depressed, rather more convex above than below: very dark reddish brown, with a pale brown or dingy white lip; often with a pale stripe on the periphery: finely but strongly granulated on both sides: spire regularly convex: whorls rather more than four and one-half, moderately convex, a little depressed at the lower side next the suture; last whorl with a narrow not very prominent keel on the periphery: aperture transversely ovate, much dilated, and produced laterally; labrum well reflected backwards, and thickened, with four teeth below, of which three have corresponding deep external furrows, labium closely appressed but thick: umbilicus rather narrow, deep, partly covered with the dilated columella. Inhabits Portland.

Greatest breadth 1.08 inch; least breadth .94 inch.

**contorta Adams Succinea**

Plate 63, fig. 12

1845, Proc. Boston Soc. Nat. Hist. 2: 12.

S. t. corneâ; spirâ minimâ; anf.  $2\frac{1}{3}$ , perconvexis, perobliquis; aperturâ maximâ, obliquâ, ellipticâ. Div.  $80^{\circ}$ ; spiræ long. .08 poll.; long. tot. .23 poll.; lat. max. .21 poll.; lat. min. .1 poll.

**convexa Adams Helix anomala**

Plate 67, figs. 4-7

1851, Cont. to Conch. no. 9: 171.

Another variety, CONVEXA, is remarkably convex on both sides, especially beneath, and has a very narrow umbilicus. It inhabits the borders of Manchester and St. Elizabeth.

**corpulenta Adams Cyliindrella maugeri**

Type not located

1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell large and robust, but moderately thickened: pearl white, sometimes with a tinge of red on the upper whorls and anteriorly; lip white; with a large irregular black spot behind the lip: coarsely striated near the end of the last whorl; otherwise with the striæ of the lower half of the shell most lightly impressed. Inhabits St. Elizabeth.

**costulata Adams Achatina**

Plate 80, fig. 1

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

A. t. parvâ, conicâ, tenui, diaphanâ, fuscescente, atro-fusco bifasciatâ; suturâ profunda; anf. 8, suprâ subangulatis, costulis gracillimis crebris—instructis; labro tenui, infrâ retracto; col-

umella haud multum arcuatâ. Div.  $20^{\circ}$ ; spiræ long. .23 poll.; long. tot. .335 poll.; lat. .1 poll.

**costulata Adams** *Cylindrella*

Plate 82, fig. 13

1849, Cont. to Conch. no. 2: 20.

Shell subovate, but elongated; whitish; with thin very prominent very distant moderately oblique ribs, of which there are about ten on the penult whorl, and which, as usual in this genus, are more crowded on the last whorl, — anteriorly with a prominent but not sharp carina; spire with convex outlines along the middle; apex truncate with the loss of five or six whorls; nine or ten whorls remaining, rather flattened, but with a deep suture; last whorl much detached and produced angulated on the right; aperture much dilated on the right, anteriorly a little angular, the rest rounded; lip somewhat thickened, rather narrow and sharp, reflected into the plane of the aperture.

Length .25 inch; breadth .075 inch; length of an entire specimen .325 inch.

**costulosa Adams** *Achatina*

Plate 80, fig. 4

1840, Cont. to Conch. no. 7: 102.

Shell conic, turritid: transluscent, very pale brownish horn color, darker at the varices: with the surface apparently striated, but having on each whorl about seventy small approximate regular transverse ribs; but the nuclear whorls are smooth; with rather indistinct varices, of which there are two or three on each whorl: apex rather obtuse; spire with the outlines nearly rectilinear, except near the apex: whorls nearly nine, moderately convex, with a well impressed suture: aperture broadly ovate: labrum not advanced along the middle, much reflected in the lower half: columella moderately produced, nearly straight, well truncated.

Mean divergence about  $20^{\circ}$ ; length of spire .65 inch; total length .86 inch; breadth .27 inch.

[Syntype specimen figured by Pilsbry, 1907a, pl. 7, figs. 14-17.]

**costulosa Adams** *Cylindrella*

Platte 61, fig. 15

1840, Cont. to Conch. no. 6: 98.

Shell fusiform, well elongated: whitish: with promi-

nent somewhat oblique ribs, of which there are about fourteen or fifteen on each whorl, and which are more crowded and less prominent on the last whorl; with distinct crowded striæ parallel with the ribs: spire truncate with the loss of — whorls; whorls remaining seven or eight, flattened, with a deep suture: last whorl much detached and produced, obtusely angulated on the right and anterior sides; aperture dilated, angulated anteriorly and on the right; lip well expanded, moderately reflected, sharp. For the loan of this species I am indebted to Mr. Cuming.

Length .34 inch; breadth .09 inch.

[Is *Bradypodella pallida* Pfeiffer, from Virgin Is., not a Jamaican shell.]

**costulosa Adams Geomelania**

Plate 91, figs. 7, 8

1850, Cont. to Conch. no. 6: 96.

Shell conic-cylindrical: whitish: with, on each whorl, about forty very slender somewhat arcuated transverse ribs, which are continued to the margin of the aperture, and which are much widened at their bases; with a few inequidistant lightly impressed very fine spiral striæ, which traverse the ribs or are obsolete at their edges: spire with rectilinear outlines: apex truncate with the loss of — whorls: whorls remaining about six and one-half, quite convex, with a deep suture: aperture ovate, widely effuse: labrum moderately reflected and thickened; with the linguiform part very obtuse and produced laterally in the lower half of the right side: labium well thickened, very widely detached from the penult whorl, and united to the labrum above at some distance from the extremity of the latter.

Mean divergence about  $13^{\circ}$ ; length .37 inch; greatest breadth .115 inch; least breadth .1 inch.

**costulosa Adams Spiraxis**

Plate 90, fig. 15

1850, Cont. to Conch. no. 6: 88.

Shell elongate-conic: whitish or horn colored: with thirty-five to forty obtuse approximate transverse ribs: apex obtuse: spire with the outlines almost rectilinear except near the apex: whorls seven and one-half, very convex, with a deep suture; last two or three whorls with

a spiral constriction on the middle, which gradually increases to the labrum, which is much indented by it: columellar lamina large.

Mean divergence about  $13^{\circ}$ ; length .175 inch; breadth .04 inch.

**crassum** *Adams Cyclostoma*

Plate 54, figs. 4, 5

1850, Ann. Lyc. Nat. Hist. New York, 5: 63; 1851, Cont. to Conch. no. 8: 147.

Shell white with a brown epidermis: with deep transverse striæ; with indistinct spiral striæ; not wrinkled; umbilical keel obsolete: spire moderately elevated: whorls five; last whorl scarcely depressed above; suture well impressed: aperture suborbicular, effuse, pointed, and advanced above: lip well thickened: umbilicus nearly two-thirds as wide as the aperture. Operculum rather concave; lamella with about seven whorls, of medium width, nearly perpendicular except that the thickened upper margin is moderately reflected.

Inhabits the back parts of Manchester.

Mean divergence about  $130^{\circ}$ ; height .53 inch; greatest breadth .77 inch; least breadth .62 inch.

**crassa** *Adams Cyliindrella maugeri*

Type not located

1851 (April), Cont. to Conch. no. 9: 163; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 87.

Shell rather small, but robust and thick: dark livid brown at both extremities or bluish grey anteriorly; with a thick white lip; with a narrow white stripe next below the suture of the last whorl, and a slender white line on the anterior keel; otherwise pearl white: with very strong striæ on the back of the last whorl, which diminish in ascending the spire, becoming microscopic on the middle whorls. Inhabits Portland.

**crenulosum** *Adams Cyclostoma*

Plate 60, fig. 7

1849, Cont. to Conch. no. 1: 12.

Shell much elongated, conic; brownish, sometimes with transverse darker clouds and slender zigzag spots, with a band of the same around the anterior part; very coarsely striated transversely, the upper ends of the raised lines being developed into very numerous sutural crenulations, spiral lines wanting; spire with nearly rectilinear outlines; apex truncate with the loss of three

whorls; five whorls remaining, with a moderately impressed suture, which is nearly concealed by the crenulations; aperture ovate-orbicular; inner peritreme orange red, on the right side coalescing with the outer peritreme, which is white, moderately expanded, sharp, concave, more produced and inflected above and at the lower end of the left side; umbilicus very small.

Mean divergence  $35^{\circ}$ ; length .83 inch; greatest breadth .45 inch; least breadth .35 inch.

**cumingi Adams** *Cylindrella*

Plate 61, fig. 12

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

[Goshen; W part of St. Ann's.]

*C. t. magnâ, candidâ, subfusiformi, longissimâ, heterostrophâ, costulis minimis obliquis regularibus rotundatis creberrimis — ornatâ, latè decollatâ; anf. 10 vel 11 perditis, superis perconvexis; anf. reliquis 8 vel 9; aperturâ ellipticâ, in faucibus valdè contractâ, in labrum latissimum acutum expansâ; anf ultimo carinâ semi-revolvente aperturam subeffusam faciente — instructo. Div. suprâ  $10^{\circ}$ ; long. tot. 1.4 poll.; post decoll. long. 1.15 poll.; lat. .19 poll.*

Synonym of *C. elongata* Chemnitz (1851, *ibid.* 9: 182).

**cumingianum Adams** *Stoastoma*

Plate 87, figs. 13–15

1849, Mon. *Stoastoma*, p. 9.

*S. testâ subglobosâ, depressâ, cerinâ, carinis spiralibus exilibus plurimis ornatâ; spirâ paululum elevatâ; anfractibus  $3\frac{2}{3}$ , ultimo magno; aperturâ campanulatâ; labro multum producto, vix pectinato; umbilico haud profundo.*

Form — globose-discoid;

color — pale reddish or yellowish brown;

sculpture — numerous spiral raised lines, of which eight or ten are visible on the spire;

spire but little elevated;

whorls  $3\frac{2}{3}$ , moderately convex, with a well impressed suture; last whorl large, elegantly rounded;

aperture moderately constricted at the fauces, but much expanded;

labrum well produced, above rather abruptly produced, very slightly scalloped between a few distant angles;

labium moderately detached from the penult whorl, a little curved below;

umbilicus shallow, with the lamellar spiral keel continued into the lower extremity of the labrum.

Mean divergence  $112^{\circ}$ ; length .05 inch; greatest breadth .075 inch; least breadth .06 inch.

The concavity of the operculum is covered with numerous lamellar grains.

**cylindrus Adams Cylindrella**

Plate 91, fig. 14

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

[7 mi N of Spanish Town and near Bog Walk.]

*C. t. rubrâ*, cylindræâ, præcedenti [i.e. *cumîngii*] similiter sed exiliùs insculptâ, latè decollatâ; anf. reliquis 12, haud multùm convexis; aperturâ subovatâ, in labrum subtenue expansâ; anf. ultimo acutè carinato. Long. post decoll. .82 poll.; lat. .15 poll.

*C. cylindrus*, Ad. Proc. Bost. Soc. Nat. Hist. Jan. 1849, received the name of *C. RUBRA* in my printed Catalogue of shells Jan. 1847. It is perhaps a variety of *C. Dunkeri*. Pfr. (1849, Cont. to Conch. no. 1: 23).

**decussatululum Adams Cyclostoma**

Plate 86, fig. 18

1849, Cont. to Conch. no. 1: 4.

Shell moderately elongate, ovate conic; whitish, with brown spiral bands, which are more distinct on the lower whorls; elegantly and finely decussated with numerous close-set transverse strong rounded raised lines; spire with convex outlines: apex truncate with the loss of two or two and one half whorls; four and one half to five whorls remaining, convex, with a deep suture; aperture nearly circular; inner peritreme moderately produced and reflected; outer peritreme moderately expanded, concentrically striated; umbilicus narrow, but extending through the truncate apex.

Mean divergence about  $50^{\circ}$ ; length .58 inch; greatest breadth .42 inch; least breadth .32 inch.

This species does not answer to the description and figures of *C. mirabile*, Gray, to which it must be nearly allied.

May be identical with *C. mirabile* Wood (1851, *ibid.* no. 10: 177).

**delaminata Adams Helix epistylum**

Plate 64, figs. 10, 11

1851 (April), Cont. to Conch. no. 9: 174; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 98.

At Easington in St. David's, is another variety, distinguishable from the small specimens, which occur in the neighboring district of Portland, by the entire ab-

sence of any internal lamina or teeth. It may be called DELAMINATA.

**delaminata** *Adams Helix osculans* Plate 64, figs. 7, 8  
1851 (April), Cont. to Conch. no. 9: 174; 1851 (May), Ann. Lyc.  
Nat. Hist. New York, 5: 98.

The same name, DELAMINATA, may be given to a variety of *H. osculans* which wants the internal lamina.

**densestriata** *Adams Pupa obesa* Type not located  
1845, Proc. Boston Soc. Nat. Hist. 2: 15.  
[Long Mt. 3 mi E of Kingston.]

Var. DENSESTRIATA, t. majore, striis exilissimis creberrimis ornatâ.

**depressa** *Adams Helix* Plate 78, figs. 13, 14  
1845, Proc. Boston Soc. Nat. Hist. 2: 16.

Preocc., new name is *Helix brevior* Adams.

Præcedenti [i.e. *subpyramidalis*] affinis; sed t. perdepressâ; apice obtusâ; umbilico latiore. Div. 155°; alt. .1 poll.; lat. max. .25 poll.; lat. min. .22 poll.

**diminuta** *Adams Cyliindrella agnesiana* Plate 61, fig. 4  
1851 (April), Cont. to Conch. no. 9: 160; 1851 (May), Ann. Lyc.  
Nat. Hist. New York, 5: 84.

We are indebted to Dr. A. Barrett for this remarkably small variety, with the following dimensions: length after truncation .67 inch; breadth .22 inch. In the specimens before us the lip is but slightly expanded. It inhabits Flamstead, in the Port Royal Mountains.

**diminuta** *Adams Helix* Plate 85, figs. 10-12  
1849, Cont. to Conch. no. 3: 36.

Shell discoidal; greenish or pale corneous, with distant transverse raised lamellæ, spire slightly elevated convexly; apex obtuse; whorls four and one-half, rather convex, with a rather deep suture; aperture orbicular, except as a little modified by the penult whorl; lip sharp and thin; umbilicus very wide.

Greatest breadth .12 inch; least breadth .103 inch; height .05 inch.

**discoidea** *Adams Proserpina* Plate 86, figs. 12-14  
1850, Cont. to Conch. no. 5: 81.

Shell nearly discoidal: pale yellowish or greenish brown; subtransparent, shining: with excessively fine striæ of growth, and an impressed spiral line next below

the suture: spire convex, slightly elevated: whorls four and one-half, moderately convex, with a well impressed suture; last whorl a little flattened beneath: aperture much dilated laterally, transversely ovate, but much modified by the penult whorl, without teeth: labrum thin and sharp: central callus occupying the region of the umbilical indentation: umbilicus narrow and deep. — This species is nearly allied to *P. opalina*. Being a genuine *Proserpina* without teeth, it suggests the propriety of omitting the phrase “*aperturâ intus dentatâ*” from the description of the genus.

Greatest breadth .275 inch; least breadth .23 inch; height .09 inch.

**dioscoricola Adams Helix**

Plate 90, fig. 11

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[Dublin Castle, at Graywyck.]

H. t. minimâ, tenui, subglobosâ, imperforatâ, anf. 3 perconvexis; ultimo rotundato, subtùs angustè indentato; labro tenui. Div. 70°; alt. .05 poll.; lat. max. .06 poll.; lat. min. .05 poll.

**distinctum Adams Cyclostoma fecundum** Plate 58, fig. 12

1849, Cont. to Conch. no. 1: 11.

Var. *distinctum*, with the aperture a little detached from the last whorl.

**docens Adams Cyclostoma fimbriatulum**

Plate 56, fig. 3

1850, Ann. Lyc. Nat. Hist. New York, 5: 56, 1851, Cont. to Conch. no. 8: 140.

Another variety inhabits an intermediate region, the parish of St. Elizabeth's. Yet although geographically intermediate between the other two forms, it is by no means so in its characters. It is smaller than the var. *albinodatum*, has its peritreme narrower, and the transverse ridges are more numerous and regular, in these characters diverging yet farther from the type of the species. On the other hand, it diverges in the opposite direction, having the transverse ridges cross the spiral ridges with enlargement. We propose for it the name *docens* in allusion to its instructiveness on the question of the origin of varieties.

**dubiosum Adams Cyclostoma**

Plate 55, figs. 2, 3

1851 (April), Cont. to Conch. no 9: 157; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 81.



[N of Holland Estate, near 'Ys' River, Ch.]

This species differs in one very striking character from *C. suturale* Sowb.: it wants the keel next below the suture, in the place of which there is a depression of the upper part of the whorls. We have seen several specimens of this species and many of *C. suturale*, and all of them conform exactly to their respective types. When the operculum of *C. dubiosum* shall have been found, additional peculiarities may be discovered.

**dubiosa Adams Helicina**

Plate 77, figs. 5, 6

1850, Cont. to Conch. no. 6: 93.

Shell globose-conic: shining, reddish brown, with the lip and callus yellowish white: with excessively fine striæ of growth, and very lightly impressed microscopic spiral striæ: apex subacute: spire well elevated, with the outlines rather convex: whorls four and one-half, rather convex, with a well impressed suture: aperture rather large, semicircular, with the notch at the base of the columella scarcely perceptible or wanting: labrum moderately reflected and thickened.

Mean divergence about  $120^{\circ}$ ; height .2 inch; greatest breadth .285 inch; least breadth .24 inch.

**duffmanum Adams Cyclostoma**

Plate 55, figs. 1, 4, 5

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

[Not a Jamaican species.]

*C. t. magnâ, discoideâ, rubellâ albâque*; anf.  $4\frac{1}{2}$ , cylindraceis; umbilico lato, profundo; margine simplici. Div.  $150^{\circ}$ ; lat. max. 1.9 poll.; lat. min. 1.45 poll.; alt. .87 poll. Gulielmo Duff, armig., conchyliorum Jamaicensium doctissimo, hæc species dedicatur.

**elatio Adams Cyliindrella**

Plate 61, fig. 10

1851 (April), Cont. to Conch. no. 9: 167; 1851 (May), Ann. Lyc. Nat Hist. New York, 5: 91.

This is also a larger shell than *C. Dunkeri*, thicker, and strongly striated, with the whorls more planulate: it is much longer and more slender than *C. rubra*. Inhabits Westmoreland. Length .93 inch; breadth .13 inch.

**elegans Adams Achatina**

Plate 79, fig. 3

1849, Cont. to Conch, no. 2: 25.

ACHATINA ELEGANS may be a variety of *A. Phillipiana* Pfr., but it has the striæ extremely fine, and the dark brown stripes are much narrower. Dr. Pfeiffer's species

has the striæ very coarse and the stripes very wide.

[The type-lot mentioned by Pilsbry (1907a: 84) is not in MCZ; syntype specimen figured by Pilsbry 1907a, pl. 8, figs. 28-30.]

**elegans** *Adams Geomelania*

Plate 81, fig. 2

1849, Cont. to Conch. no. 2: 18.

Shell cylindrical; whitish; elegantly sculptured with distant prominent very slender ribs, which are not impressed by the very numerous microscopic spiral striæ, of which about twenty are visible on the whorls of the spire: spire with nearly rectilinear outlines; apex truncate with the loss of — whorls; seven whorls remaining, quite convex, with a very deep suture; aperture ovate, moderately effuse; labrum moderately thickened and reflected, and but little produced at the lower part; labium prominent, rather thick, slightly detached from the penult whorl at the very small sinus above which it unites with the labrum.

Mean divergence  $13^{\circ}$  to  $14^{\circ}$ ; length .3 inch; greatest breadth .08 inch; least breadth .07 inch.

[Lectotype figured by Clench & Turner, 1948, pl. 23, fig. 8.]

**epistyliulum** *Adams Helix*

Plate 65, figs. 1, 2

1849, Cont. to Conch. no. 2: 31.

Shell conoid; white; with microscopic striæ of growth; spire with very convex outlines; apex very obtuse; whorls six and one-half, a little convex, with a well impressed suture; last whorl with a subangular periphery; aperture lunate, without any internal lamella; lip sharp; umbilicus very narrow, rather deep.

Greatest breadth .175 inch; least breadth .16 inch; height .17 inch.

Except in its minute size this species much resembles *H. epistylium*, and still more closely *H. Cookiana*.

**errans** *Adams Helix spreta*

Type not located

1851 (April), Cont. to Conch. no. 9: 173; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 97.

Variety **ERRANS** differs from the above [*spreta*], in having the whorls less shouldered and consequently the suture less deep, and in having the region around the

umbilicus somewhat thickened internally so as to be opaque.

**exilis Adams Geomelania**

Plate 91, figs. 9, 10

1850, Cont. to Conch. no. 6: 97.

Shell much elongated, conic-cylindrical: whitish: with, on each whorl, about thirty-five transverse, very slender, straight ribs, and numerous fine striæ which do not impress the summits of the ribs: spire with rectilinear outlines: apex truncate with the loss of — whorls: whorls remaining seven, quite convex, with a deep suture: aperture broadly ovate, widely and slightly effuse: labrum slightly expanded and reflected; with the linguiform part occupying the lower half, and scarcely produced; labium as much thickened and reflected as the labrum, rather widely separated throughout from the penult whorl.

Mean divergence about  $10^{\circ}$ ; length .27 inch; greatest breadth .064 inch; least breadth .056 inch.

**exilis Adams Pupa**

Plate 82, fig. 12

1849, Cont. to Conch. no. 3: 38.

Shell tapering and much elongated; white, smooth; spire slender, with scarcely convex outlines; apex obtuse; whorls nearly six, rather convex, with a well impressed suture; aperture oblique, long, contracted at both extremities, rather angular anteriorly; lip well reflected and thickened; on the left side of the aperture is a strong transverse tooth, and there is a smaller oblique tooth at the end of the columella; umbilicus very small. This species much resembles *P. exigua* Say, but tapers regularly from the middle of the last whorl, and is more slender.

Length .08 inch; greatest breadth .028 inch; least breadth .025 inch.

**expansa Adams Geomelania**

Plate 81, fig. 3

1849, Cont. to Conch. no. 3: 18.

Shell much elongate, conic; whitish; rather densely sculptured with strong transverse somewhat arcuate ribs, which are flattened on the forward side, are less regular than in *G. minor*, and are obsolete on the anterior half of the last whorl; spire with rectilinear outlines; apex

truncate with the loss of — whorls; nearly seven whorls remaining, moderately convex, with a well impressed suture; aperture ovate, much expanded laterally, widely and rather deeply effuse anteriorly; labrum but little thickened, slightly reflected above, more reflected and widely spread below; labium rather thin, a little reflected into the concavity of the central region of the penult whorl, to which it is appressed.

Mean divergence  $18^{\circ}$ ; length .53 inch; greatest breadth .185 inch; least breadth .15 inch.

**fadyenianum** *Adams Stoaostoma*

Plate 90, figs. 5-7

1849, Mon. *Stoaostoma*, p. 7.

S. testâ subdiscoideâ, pallidè cerinâ, carinis exilissimis paucis inequalibus ornatâ; spirâ acutâ, concaviter multum elevatâ; anfractibus  $4 \frac{2}{3}$ ; anf. ultimo expanso, discoideo, infrâ planulato; aperturâ haud multum expansâ, semicirculo paululum majore; labro haud pectinato, infrâ auriculato; labio multo soluto; lamellâ spirali umbilicali, labro junctâ.

Form — subdiscoidal;

color — pale yellowish brown;

sculpture — a few rather inequidistant unequal raised spiral lines, more numerous near the umbilical region;

spire much elevated above the plane surface of the last whorl, forming with it a very concave outline;

whorls  $4 \frac{2}{3}$ , moderately convex, with a well impressed suture; last whorl large and spreading, abruptly flattened beneath;

aperture rather more than a semicircle, slightly spreading, white;

labrum much produced, above abruptly produced, not scalloped, auriculate beneath;

labium much detached from the penult whorl, in the lower part much curved to the right;

umbilical region with a well developed spiral lamella, which is continuous with the lower extremity of the labrum.

Mean divergence about  $135^{\circ}$ ; length .07 inch; greatest breadth .1 inch; least breadth .08 inch.

**fecundum** *Adams Cyclostoma*

Plate 58, fig. 10

1849, Cont. to *Conch.* no. 1: 11.

Shell much elongated, conic; brownish or reddish

brown, sometimes with darker more or less transverse clouds, with numerous elegant spiral series of small dark brown spots, which are arranged at unequal distances in transverse lines, and are most conspicuous in the young shell, disappearing with age; with transverse striæ like *C. armatum*, and spiral faintly impressed lines on the upper whorls; spire with scarcely convex outlines; apex truncate with the loss of three whorls; five rather convex whorls remaining, with a moderately impressed suture; aperture large and spreading, less oblique than in the two preceding species, ovate, much angulated and extended into a sinus above; lip single, rather thin, a little spreading, scarcely reflected back to the plane of the aperture; umbilicus small, with rather strong spiral striæ.

Mean divergence  $33^{\circ}$ ; length .72 inch; greatest breadth .37 inch; least breadth .3 inch.

**fluctuata Adams Helix**

Plate 70, figs. 7-9

1849, Cont. to Conch. no. 2: 29.

Resembles the preceding [*patina*], but the surface is more uniformly and regularly granulated even than in *H. acutissima*: the outline of the last whorl is an oval considerably elongated; on the first half of this whorl, the shell is concave on both sides of the periphery, which next rather suddenly becomes obtuse: the lower side is very convex through the central region, and the upper surface is obliquely waved or wrinkled.

Greatest breadth 2.2 inches; least breadth 1.7 inch; height 1 inch.\*

\*The largest *Helix acutissima* which I have seen is 2.3 by 2.03 inches, and the smallest mature individual is 1.1 by .95 inch.

Synonym of *H. chemnitziana* Pfeiffer (1851, *ibid.*, no. 10: 205).

**foremaniana Adams Helix**

Plate 65, figs. 3, 4

1850, Cont. to Conch. no. 5: 80.

Shell ovoid, with a scarcely perceptible obtuse angle on the periphery: white, with a very pale horn-colored epidermis: with fine irregular striæ of growth, and sometimes on the lower side of the last whorl with inequidistant unequal concentric striæ: spire very much elevated, with very convex outlines: whorls seven and one-

half, quite convex, with a well impressed suture; last whorl very convex beneath to the centre, without any indentation in the umbilical region: aperture obliquely lunate, wider below than above; within, a little below the middle of the right side, is a long lamellar tooth, commencing abruptly in the bottom of the aperture, and gradually diminishing in height to its termination a little within the margin; with a wide irregular tooth on the end of the columella: labrum sharp: umbilicus wanting. This species is dedicated to my friend Dr. E. Foreman, of Washington, who is well known for many years to have rendered valuable services to Conchology.

Greatest breadth .78 inch; least breadth .73 inch; height .9 inch.

**fortis Adams** *Cylindrella rosea* Plate 61, fig. 19  
1851 (April), Cont. to Conch. no. 9: 161; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 85.

Shell as long as var. *major*, (p. 21,) but with less diameter and more cylindric.

[See Pilsbry, 1903a: 137.]

**fortis Adams** *Geomelania* Plate 81, fig. 4  
1850, Cont. to Conch. no. 6: 94.

Shell elongate conic: whitish: with, on each whorl, about thirty-six rather slender transverse arcuated ribs: spire with rectilinear outlines: apex truncate with the loss of about eight whorls: whorls remaining seven, moderately convex, with a well impressed suture: aperture ovate, widely and deeply effuse: labrum well expanded and reflected; with the linguiform part at the anterior extremity, excessively produced obliquely and downwards, rather narrow, acute: labium well thickened, slightly separated from the penult whorl.

Mean divergence about  $12^{\circ}$ ; length .6 inch; greatest breadth .18 inch; least breadth .15 inch.

**fortis Adams** *Helix* Plate 67, figs. 1-3  
1850, Cont. to Conch. no. 5: 77.

Shell depressed, suborbicular, subconic, moderately convex beneath, with a slight sharp keel along the periphery: (reddish brown?): surface rather strongly granulated except on the upper whorls: spire between convex

and conic, but little elevated: whorls nearly five and one-half, convex next below the suture, and next above it very concave, forming a shallow spiral furrow; with the suture lightly impressed: aperture with the same form and character of lip as in *H. sinuata*; with three robust teeth on the lower side, of which the two on the right have, externally, corresponding furrows, which are long and deep: umbilicus wanting.

Greatest breadth 1.44 inch; least breadth 1.19 inch; height .75 inch.

**fuscum Adams Cyclostoma album** Plate 60, fig. 5

1851 (April), Cont. to Conch. no. 9: 156; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 80.

Is distinguished [from *album*] by its smaller size, brown color, and a less smooth surface.

**fusca Adams Cyllindrella maugeri** Type not located

1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell short, robust, but moderately thickened: pale umber color, darker near the end of the last whorl; lip white: lightly striated on the upper whorls; in the rest regularly and rather coarsely striated. Inhabits Maroon Town in Hanover.

**fuscocincta Adams Helix** Plate 73, figs. 3, 4

1849, Cont. to Conch. no. 3: 33.

Shell conic; white beneath a very thick epidermis, which has a narrow well defined blackish zone next below the suture, and next below is pale brown, gradually becoming darker in crossing the whorls to a narrow and well defined very pale yellowish brown zone, which runs next above the suture and along the periphery of the last whorl, the base of which is wholly of a dark brown, — often with numerous hydrophanous white spots; with striæ of growth, which are fine in some and coarse in other individuals; spire with nearly rectilinear outlines, more or less elevated; apex a little obtuse; whorls six, a little convex, with a well impressed suture; aperture somewhat depressed orbicular; lip rather thin and sharp, with the columellar portion moderately dilated and thickened; umbilicus wanting.



The proportions are quite variable, as in the four following examples, the first being a young shell.

No. 1. Mean divergence  $70^{\circ}$ ; greatest breadth .6 inch; least breadth .52 inch; height .65 inch.

No. 2. Mean divergence  $82^{\circ}$ ; greatest breadth .83 inch; least breadth .7 inch; height .79 inch.

No. 3. Mean divergence  $95^{\circ}$ ; greatest breadth .725 inch; least breadth .58 inch; height .57 inch.

No. 4. Mean divergence  $106^{\circ}$ ; greatest breadth .81 inch; least breadth .63 inch; height .57 inch.

**fuscolabris Adams Helix**

Plate 70, figs. 10-12

1850, Cont. to Conch. no. 7: 106.

[Westmoreland].

Shell transversely ovate-orbicular, convex on both sides: deep reddish brown, paler next the labrum, and at the periphery, darker next below the periphery, often light green around the umbilical region, and behind the lower part of the labrum, clear brown at the margin of the lip, white within: finely but rather strongly granulated, except near the apex and the umbilical region: spire convex or subconoid, moderately elevated: whorls five and one-half, slightly convex, often a little concave in the lower part, with a lightly impressed suture: last whorl with a rather acute periphery: aperture almost horizontal, sublunate, moderately dilated; with, on the lower side, two white teeth, of which the outer one is very large, and both of which are accompanied exteriorly with proportionate furrows: labrum moderately thickened and reflected, much thicker and more reflected next the columella. This species is intermediate between *H. lucerna* and *H. acuta*.

Height .72 inch; greatest breadth 1.5 inch; least breadth 1.26 inch.

**fusco-lineatum Adams Cyclostoma**

Plate 59, fig. 8

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

[St. Ann's].

C. t. præcedenti [*bronni*] affini, fasciis angustis fuscis interruptis ornata, suturâ haud multum crenulatâ, labro minore. For-  
san var.? alt. .55 poll.; lat. max. .4 poll.; lat. min. .3 poll.

Variety of browni Ad. (1851 *ibid.*, no. 9: 180).



**fuscula Adams Helix**

Plate 85, figs. 16-18

1849, Cont. to Conch. no. 3: 35.

Shell subconic; brown; with fine striæ of growth; spire well elevated convexly; apex subacute; whorls four, quite convex, with a deep structure; aperture sublunate; lip sharp and thin; last whorl very convex around the small umbilicus.

Mean divergence  $30^{\circ}$ ; greatest breadth .1 inch; least breadth .09 inch; height .072 inch.

**fusiformis Adams Pupa**

Plate 82, fig. 3

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

[Manchineel, Rio Bueno].

P. t. fusiformi, nitidâ, exilissimè striatâ, opacâ, cinereâ, decolatâ; anf. 5 vel 6 perditis, planulatis; anf. 8 reliquis, haud multùm convexis, albo-fasciatis, fasciâ infra-suturali; labro solido, albo, rotundato, sinuoso, suprâ haud continuo; umbilico angusto. Long. post decoll. .8 poll.; lat. .27 poll.

Is variety of *Cylindrella maugeri* (1851, *ibid.*, no. 9: 164).

**gayana Adams Achatina**

Plate 79, fig. 4

1850, Cont. to Conch. no. 7: 103.

Shell well elongated ovate-fusiform: light brownish yellow, with a series of very distant triangular spots of dark brown, descending from the suture, about five or six on each whorl: varicose coincidently with the brown spots, the varices being rather feebly indicated, as in *A. nitida*; with fine regular rather crowded transverse striæ: apex subacute: spire with the outlines a little convex: whorls seven or eight, rather convex, with a well impressed suture: aperture long ovate, acute above: labrum sharp and thin: columella nearly straight, rather narrow and obliquely truncated.

Mean divergence about  $30^{\circ}$ ; length .76 inch; greatest breadth .27 inch; least breadth .25 inch; length of aperture .36 inch.

This rare and elegant species is dedicated to my assistant, Mr. A. M. Gay, in testimony of his industry and rapid acquisitions in natural history.

[Syntype specimen figured by Pilsbry, 1907a, pl. 16, fig. 9 (probably not fig. 8).]

***gouldianum* Adams *Stoastoma***

Plate 88, figs. 1-3

1849, Mon. *Stoastoma*, p. 5.

*S. testâ discoideâ, pallidè virente, carinis paucis, et lineis elevatis exilissimis spiralibus, ornatâ; spirâ convexâ paululum elevatâ; anfractibus  $3\frac{1}{2}$ , anf. ultimo lato, suturâ valdè impressâ; aperturâ campanulatâ; labro longè producto, suprâ auriculato, a carinis productis pectinato; umbilico sub-lato, lamellâ spirali haud multùm elevatâ.*

Form — discoidal;

color — very pale green; subtransparent;

sculpture — a few distant spiral carinæ, of which two or three are visible on the upper whorls, and very delicate spiral raised lines, usually two or three in each interspace;

spire slightly and convexly elevated;

whorls  $3\frac{1}{2}$ , moderately convex, with a deep suture; last whorl large and spreading, detached from the penult whorl near the aperture;

aperture campanulate, the arch of the labrum somewhat depressed;

labrum produced very far, abruptly produced and auriculate above, with wide scollops formed by the produced carinæ;

labium much detached from the penult whorl and a little expanded;

umbilicus wide, with the spiral lamella moderately developed and continuous with the lower extremity of the labrum.

Mean divergence  $155^{\circ}$  to  $160^{\circ}$ ; length .05 inch; greatest breadth .11 inch; least breadth .08 inch.

Operculum very concave externally, shining, slightly lamelliferous.

Variety *a*; one-fourth smaller; the carinæ less and the intermediate lines more developed.

***gracilior* Adams *Achatina***

Plate 80, fig. 5

1850, Cont. to Conch. no. 7: 104.

Shell conoidal, but very slender: pale horn color: with about twelve transverse oblique slightly prominent lamelloid ridges, which are more distinct next below the suture: apex rather acute: spire with the outlines nearly rectilinear: whorls eleven, a little convex, with a distinct

suture: aperture ovate, very acute above, retreating below on both sides, but less on the left side: labrum thin: columella moderately arcuated and truncated.

Mean divergence about  $9^{\circ}$ ; length of spire .43 inch; total length .55 inch; breadth .09 inch.

[Lectotype figured by Pilsbry, 1907a, pl. 12, fig. 8.]

**gracilis Adams** *Cylindrella maugeri* Type not located  
1851 (April), Cont. to Conch. No. 9: 166; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 90.

Shell quite slender: pearl white, with a pure white keel and lip: at the end of the last whorl coarsely striated; otherwise with excessively minute striæ.

**gracilis Adams** *Geomelania* Plate 81, fig. 5  
1850, Cont. to Conch. no. 6: 95.

Shell similar to that of *G. procera*; but the ribs are much more slender and numerous (about forty on each whorl), and are more or less inequidistant; only very slight traces of spiral striæ can be detected under a magnifier: the apex is truncate with the loss of eight whorls: the linguiform part of the lip is sub-acute, and is much produced obliquely and laterally at the lower extremity of the right side: the labium is as thick as the labrum.

Mean divergence about  $10^{\circ}$ ; length .55 inch; greatest breadth .13 inch; least breadth .11 inch.

**graminicola Adams** *Helix* Plate 73, figs. 1, 2  
1849, Cont. to Conch. no. 2: 32.

Shell depressed globular; brown, with a white zone next below the suture, and another on the periphery of the last whorl, which last zone is margined above with a blackish brown zone: with striæ of growth which are fine beneath and coarse above; spire convex, moderately elevated; apex rather obtuse; whorls more than five, rather convex, with a well impressed suture; aperture more than a semicircle, much modified by the penult whorl; labrum rather sharp and thin; thickened a little within by a purple deposit, slightly reflected over the small umbilicus.

**granosum Adams** *Cyclostoma* Plate 59, fig. 4  
1850, Cont. to Conch. no. 6: 93.

Shell long ovate-conic: dingy white, with some irregular brown spots next below the suture, with a faint spiral band of the same anteriorly, reddish brown near the end of the last whorl: surface granosely decussated by numerous small transverse and spiral ridges, of which the latter commence on the second whorl from the truncated summit: spire with the outlines moderately convex: whorls remaining after truncation four and one-half, quite convex, with a rather deep suture: aperture nearly circular, with the left half of the outline compressed: inner peritreme moderately produced: outer peritreme thick, narrow, with the margin reflected behind the plane of the aperture: umbilicus small, extending through the truncated summit.

Mean divergence about  $33^{\circ}$ ; length .6 inch; greatest breadth .37 inch; least breadth .3 inch.

*granulosa* Adams *Lucidella aureola* Plate 84, figs. 1-3  
1850, Cont. to Conch. no. 6: 89.

A variety of *Lucidella aureola* is so strongly sculptured with granules, that it will be convenient to designate the variety with the name of *granulosa*.

*gravesii* Adams *Cylindrella* Plate 62, fig. 6  
1849, Cont. to Conch. no. 2: 21.

Shell ovate-cylindrical moderately elongated, with the last whorl a little quadrangular; white; with very dense very fine slightly arcuate very oblique striæ, with the carinæ of the last whorl obsolete; spire with rather convex outlines; apex truncate with the loss of — whorls; nine to eleven whorls remaining, scarcely convex, with a lightly impressed margined suture; last whorl moderately produced at right angles to the axis of the spire; aperture somewhat quadrangular, lip rather wide, reflected into the plane of the aperture.

Var. *a*, with a small prominent anterior carina.

Dimensions rather variable, as follows in three individuals before me. No. 1; length .72 inch; breadth .178 inch. No. 2; length .66 inch; breadth .2 inch. No. 3; length .55 inch; breadth .19 inch.

*greyana* Adams *Cylindrella* Plate 61, fig. 13  
1850, Cont. to Conch. no. 5: 82.

Shell much elongated, tapering quite uniformly to the apex: dingy white: with excessively elevated lamellar transverse ribs, of which there are six on each whorl; with the intercostal spaces densely covered with microscopic spiral striæ: spire with the outlines nearly rectilinear: apex broadly truncate with the loss of five whorls, of which the first one and one-half are smooth, the next one is closely covered with microscopic transverse raised lines, and the rest have twelve to fourteen lamellar transverse ribs, which are moderately elevated, but which increase in size and diminish in number down the spire to a little below the place of truncation: remaining whorls about seven, somewhat flattened, with a very deep suture; last whorl small, scarcely produced from its last point of contact with the penult whorl: aperture obliquely ovate, a little modified by the penult whorl: labrum near the last rib, very thin and sharp, not reflected.

Length .31 inch; breadth .14 inch.

This extraordinary shell is dedicated to His Excellency, Sir Charles Grey, the present Governor General of Jamaica, as a tribute of respect for those attainments in Natural Science, which adorn a high official station. We thus also commemorate the administration, during which a very large portion of the land and fresh-water shells of Jamaica have been discovered.

[Is a *Geomelania*. Lectotype figured by Clench & Turner 1948, pl. 23, fig. 7.]

*griffithianum* Adams *Cyclostoma*

Plate 59, fig. 5

1850, Cont. to Conch. no. 6: 93.

[Yallah's Village].

Shell ovate-conic, much elongated: with four to six spiral frequently interrupted lines of dark brown, on a ground of very pale reddish brown between, — and whitish on the summits of — the transverse ridges: with crowded fine transverse raised lines; anteriorly with feeble concentric striæ: spire rather long, with the outlines moderately curvilinear: apex truncate with the loss of — whorls: whorls remaining five, convex, with a well impressed suture: aperture ovate, rather acute

above: peritreme simple, moderately expanded and reflected, minutely auriculate above: umbilicus small.

Mean divergence about  $30^{\circ}$ ; length .55 inch; greatest breadth .28 inch; least breadth .25 inch.

**griffithsii Adams Achatina**

Plate 79, fig. 5

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

[Goshen].

A. t. tenui, diaphanâ, pallidè fusciscente, lineis atro-fuscis longitudinalibus paucis distantibus — ornatâ; anf.  $7\frac{1}{2}$  a lineâ infra-suturali impressis, costulatis, costulis creberrimis haud multum elevatis et rotundatis; aperturâ elongatâ, suprâ acutâ, infrâ subcanaliculatâ; labro tenui, medio angulato, infrâ valdè retracto; columellâ valdè contortâ. Div.  $28^{\circ}$ ; spiræ long. .46 poll.; long. tot. .81 poll.; lat. .275 poll.

Emmended to *griffithii* (1851, Cont. to Conch. no. 8: 129).

**haldemanniana Adams auctores Helix**

Is *haldemanniana* "Adams M. S." Pfeiffer, 1845, Zeitschr. f. Malak., p. 154. Not an Adams name.

**hexodon Adams Pupa**

Plate 82, fig. 11

1849, Cont. to Conch. no. 3: 37.

Shell ovate; brown; smooth and shining; spire with convex outlines; whorls five, rather convex, with a well impressed suture; aperture semioval, with the transverse lip rather oblique, constantly with six teeth, of which two are on the transverse lip, the inner one being a little larger; two teeth are on the columella, the upper one being a little larger; and on the outer side are two, of which the lower one is a little larger; umbilicus very small. This species resembles *P. ovata* Say. See the excellent monograph by Dr. Gould of the Pupæ of the United States in the Bost. Journ. Nat. Hist. Vols. III. and IV.

Length .085 inch; breadth .055 inch.

**hillianum Adams Cyclostoma**

Plate 55, fig. 7

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

C. t. sub-depressâ, candidâ, fasciis angustis fuscis interruptis ornatâ, decollatâ, anf. reliquis 5, vixconnexis, aculeis elongatis decussatim seriatis — elegantissimè insculptis; aperturâ ab anf. penultimo remotâ; labro latissimè planulato, plicato; umbilico lato, profundo; operculo albo, lamellâ spirali procerâ ornato. Div.  $110^{\circ}$ ; alt. .32 poll.; lat. max. .47 pol.; lat. min. .87 poll.; Richardo Hill,

armig., rerum naturalium Jamaicensium doctissimo, hæc species dedicatur.

**hilliana Adams Geomelania**

Plate 91, fig. 3, 4

1851 (April), Cont. to Conch. no. 9: 159; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 83.

Shell conic-cylindric: white: with, on each whorl, about 33 to 35 small obtuse ribs, which are obsolete anteriorly and behind the labrum: spire with rectilinear outlines: apex truncate with the loss of — whorls: whorls remaining six, very convex, with a deep suture: aperture suborbicular, moderately effuse: labrum well expanded and reflected, thin; linguiform part moderately produced obliquely on the side, obtuse: labium well thickened and regularly reflected, slightly disjunct from the penult whorl.

Mean divergence about  $11^{\circ}$ ; length .25 inch; greatest breadth .085 inch; least breadth .07 inch.

**hirsuta Adams Helicina**

Plate 77, figs. 7, 8

1850, Ann. Lyc. Nat. Hist. New York, 5: 49; 1851, Cont. to Conch. no. 8: 133.

Shell depressed globose, rather thin: brownish red, with an hirsute brown epidermis, having long hairs in six spiral lines, of which one is next below the suture and the others are on the middle and lower parts of the last whorl: with the striæ of growth lightly impressed: apex rather obtuse, slightly mucronate: spire with the outlines much curved: whorls nearly five, slightly planulate, with a well impressed suture: aperture rather large, semi-elliptical; lip rather thin and sharp, but well reflected so as to form a canal behind; with the slit not very deep, but wide.

Mean divergence  $110^{\circ}$ ; greatest breadth .59 inch; least breadth .48 inch; height .04 inch.

The slit has about the same proportions as in *H. Hollandi*, having less depth and a greater width than in *H. palliata* and *H. Brownii*. Except in its greater size, it very closely resembles the former species, which however wants the spiral lines of long hairs in the epidermis. The operculum of this species is much smoother. I adopt the name suggested by Mr. Chitty.

**hollandi Adams Cylindrella**

Plate 61, fig. 2

1850, Cont. to Conch. no. 5: 82.

Shell rather slender, cylindrical in the lower three fourths, slowly tapering above: wax color: with very minute crowded transverse striæ, and the anterior spiral keel not very prominent: apex rather broadly truncate, with the loss of — whorls: whorls remaining ten, subplanulate, with a well impressed suture: aperture considerably produced beyond the penult whorl, between orbicular and trapezoidal, slightly effuse by the canal within the anterior keel; lip well expanded, moderately reflected.

Length .82 inch; breadth .18 inch.

**hollandi Adams Helicina**

Plate 89, figs. 17–19

1849, Cont. to Conch. no. 1: 13.

Species similar to *H. Brownii*, but the shell is much smaller and thinner; it is chiefly distinguished by the incision being only half as deep, and by the produced columella, which has no impressed line nor groove, although slightly raised at the margins.

Mean divergence  $105^{\circ}$ ; length .23 inch; greatest breadth .41 inch; least breadth .32 inch.

**hollandi Adams, Helix**

Plate 74, figs. 5–7

1849, Cont. to Conch. no. 3: 34.

Species similar to *H. arboreoides* Ad.; but the whorls are lower; there is an umbilicus about .03 inch in diameter extending to the apex; the aperture is smaller, and the last whorl is much flattened beneath.

Greatest breadth .49 inch; least breadth .42 inch; height .25 inch.

**hollandianum Adams Stoastoma**

Plate 89, figs. 13–15

1850, Ann. Lyc. Nat. Hist. New York, 5: 65; 1851, Cont. to Conch. no. 8: 149.

Shell subdiscoidal: pale horn color, subtransparent: with five spiral carinæ, one of which is visible on the spire; with very delicate spiral raised lines, usually three to six in each interspace: spire moderately elevated convex: whorls three and one-half, moderately convex, subangular; with a well impressed suture; last whorl scarcely detached from the penult whorl at the aperture:



aperture rather large, slightly constricted behind the lip, which is moderately produced, above not very abruptly produced, scarcely modified by the carinæ; labium well detached from the penult whorl, scarcely reflected: umbilicus rather wide, with the spiral lamella moderately developed. Operculum deeply concave, subauriculate, smooth.

Mean divergence about  $145^{\circ}$ ; height .035 inch; greatest breadth .065 inch; least breadth .055 inch.

This species much resembles the preceding [*tappanianum*]. It is most readily distinguished by its inferior size, and by the greater number of fine spiral striæ.

**hortensis Adams Bulimus**

Plate 80, fig. 17

1851 (April), Cont. to Conch. no. 9: 168; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 92.

Kingston.

Shell much elongate, conic: horn color, (or black in the upper whorls, and lemon yellow in the lower whorls, when containing the animal alive): with numerous microscopic striæ: spire with the outlines nearly rectilinear: apex small: whorls eight or nine, moderately convex, with a well impressed suture: aperture very thin and sharp: columella straight. The whorls are proportionally shorter, and the aperture is wider than in *B. subula*, Pfr., the revolution of the whorls being much less oblique. It nearly resembles *B. octonoides*.

Mean divergence about  $18^{\circ}$ ; length .42 inch; breadth .12 inch; length of aperture .12 inch. Inhabits gardens in Kingston.

**humilis Adams Cyliindrella**

Type not located

1850, Cont. to Conch. no. 7: 101.

Shell cylindrical in the lower two-fifths, tapering above: pale horn color; with rather numerous oblique, nearly straight equidistant fine elevated transverse lines: spire truncate, with the loss of — whorls: whorls remaining eight to eight and one-half, very convex, with a well impressed suture; last whorl subangular anteriorly, scarcely produced from the penult whorl; aperture orbicular, moderately large: labrum moderately reflected and dilated, very thin.

Length .2 inch; breadth .05 inch.

**hyacinthinum Adams Cyclostoma**

Plate 56, fig. 10

1849, Cont. to Conch. no. 1: 9.

Shell ovate conic; deep greyish blue, often in the progress of growth becoming pale brown and then orange, always deep orange at the lip; with rather strong but not very prominent often whitish transverse raised lines, which are mostly in groups of three or four, and are traversed by numerous spiral series of short rectangular obliquely situated indentations, which are of a dark brown in brownish parts of the shell, — with very unequal and inequidistant small crenulations in the suture; spire with rather convex outlines; apex truncate with the loss of two whorls; four quite convex whorls remaining, with a deep suture; aperture orbicular, slightly angulated above; inner peritreme slightly produced; outer peritreme narrow, concave, deeply striated, sharp-edged, wanting at the contact with the penultimate whorl, auriculate above; umbilicus extending through.

Mean divergence  $58^{\circ}$ ; length .58 inch; greatest breadth .45 inch; least breadth .35 inch.

Probably this is a variety of *C. Banksianum*, which is more coarsely and conspicuously crenulated; but without authentic specimens of *C. Banksianum*, I am unable to decide from the description and figures in the Thesaurus.

Probably identical with *banksianum* Sowb. (1851, *ibid.* no. 9: 156). We are somewhat doubtful of the identity of *C. banksianum* Sowb. with *C. hyacinthinum* Ad (1851, *ibid.* no. 9: 177).

**hydeana Adams Cyliindrella**

1849, Cont. to Conch. no. 2: 23.

New name for *Bulimus gossei* Pfeiffer, no type needed.

**ignilabre Adams Cyclostoma**

Plate 59, fig. 3

1849, Cont. to Conch. no. 1: 9.

Shell elongate; varying in different individuals from a pale dingy brown to dark blueish slate color, but in all is deeply colored at the extremities, with a fiery red lip; with closely set strong transverse raised lines, which are decussated by many very faint striæ; spire with moderately convex outlines; apex truncate with the loss of

three whorls; four and one-half quite convex whorls remaining, with a deep suture; aperture and peritremes as in the preceding [*tenuistriatum*]; umbilicus narrow, extending through.

Mean divergence  $35^{\circ}$ ; length .5 inch; greatest breadth .27 inch; least breadth .2 inch.

Var. *a*, with a white lip, and shell always pale dingy brown.

**immaculatus "Adams" Reeve Bulimus**

1850, Conch. Icon. 5: pl. 85, fig. 631.

Not an Adams name.

**immunda Adams Helix**

Plate 84, figs. 9-11

1849, Cont. to Conch. no. 3: 36.

[St. Elizabeth].

Shell depressed conic; dingy white, sometimes greenish and brownish, translucent; very thin, with very unequal striæ of growth; spire convex, moderately elevated; apex very obtuse; whorls five, quite convex, with a deep suture; aperture transversely oval; lip extremely thin and sharp, reflected in the columellar portion; umbilicus not very wide, extending to the apex.

Greatest breadth .52 inch; least breadth .44 inch; height .27 inch.

**imperforata Adams Helix consanguinea** Plate 68, figs. 8-10

1851 (April), Cont. to Conch. no. 9: 171; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 95.

A variety, IMPERFORATA, is larger, rather less depressed, and without an open umbilicus. It inhabits Swift River head, in St. George.

**imperforata Adams Helix ingens**

Plate 69, figs. 4-6

1851 (April), Cont. to Conch. no. 9: 170; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 94.

*Helix ingens*, var. IMPERFORATA, without an apparent umbilicus, is more common than the umbilicated type.

**inconspicua Adams Helix**

Plate 83, figs. 10-12

1849, Cont. to Conch. no. 3: 37.

Shell subdiscoidal; whitish or pale horn color; with very fine striæ of growth; spire scarcely elevated convexly; apex obtuse; whorls nearly five, rather convex, narrow, rather high, with a well impressed suture; periphery of the last whorl nearly in the plane of the spire,

subangular; aperture narrow and lunate; umbilicus more than half as wide as the penult whorl, subconcave. This species is intermediate between *H. peraffinis* and *H. depressa*.

Greatest breadth .175 inch; least breadth .15 inch; height .08 inch.

**indigna Adams** *Helix ingens*

Plate 69, figs. 1-3

1851, Cont. to Conch. no. 9: 170.

Another variety, **INDIGNA**, is of much less size, and is much less acute at the periphery. It is also imperforate.

**ingallsiana Adams** *Achatina*

Plate 79, fig. 6

1849, Cont. to Conch. no. 2: 25.

Shell fusiform; pale brownish, with but four or five dark brown transverse stripes; with very minute rather numerous but not crowded transverse striæ; spire with moderately convex outlines; apex rather small; whorls seven, moderately convex, with a well impressed finely corded suture; aperture very long, rather narrow; lip thin, with the edge sharp and curved forwards; columella moderately produced and arcuate.

Mean divergence  $36^{\circ}$ ; length .75 inch; breadth .25 inch; length of aperture .35 inch.

["Single example" [fide Pils. 1907a] figured by Pilsbry, 1907a, pl. 16, figs. 1-2.]

**ingens Adams** *Helix*

Plate 69, figs. 7-9

1850, Cont. to Conch. no. 5: 76.

Shell transversely ovate, convex above, more convex beneath, concave next the periphery below, and also above except in the last half of the last whorl; with a very acute periphery: above reddish brown of shades varying in different individuals and in different parts of the same shell, usually paler on the last whorl; beneath dark reddish or blackish brown next the periphery, whitish in the rest; lip reddish brown: surface strongly granulated beneath, except at the margin of the umbilicus; above more feebly granulated, smooth on the upper whorls and on the upper part of the lower whorls: spire convex, moderately elevated: whorls a little more than five, convex next below and concave next above the suture, with a very uneven surface: aperture subtriangu-

lar: labrum reflected and thickened; on the middle of the lower side with (usually?) two rather distant stout teeth, the inner of which is (frequently?) accompanied by a contiguous small tooth: umbilicus large and deep, scarcely contracted except quite near the apex, where it consequently terminates very obtusely; mostly covered by the expansion and thickening of the lip.

Greatest breadth 2.98 inches; least breadth 2.45 inches; height 1.2 inches.

This largest of all the terrestrial shells of Jamaica is as remarkable for the character of its umbilicus, as for its magnitude. This species is intermediate between *H. patina*, *H. acuta*, and *H. fluctuata*.

**inornata** *Adams* *Cylindrella*

Plate 61, fig. 7

1849, Cont. to Conch. no. 2: 22.

Shell subovate or fusiform, but elongated; whitish; with fine oblique arcuate sharp prominent but not very closely set raised lines, anteriorly with two carinæ which are not prominent; spire with the outlines moderately convex in the middle and lower whorls; apex truncate with the loss of — whorls; eight or nine whorls remaining, quite convex, with a deep suture; last whorl well detached and produced; aperture subangular on the right side, in the rest rounded; lip a little thickened, narrow, moderately reflected.

Length .38 inch; breadth .11 inch.

**integra** *Adams* *Cylindrella* *maugeri*

Type not located

1851 (April), Cont. to Conch. no. 9: 166; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 90.

Shell quite slender: dull white, with a clear white lip: striæ very oblique, quite distinct on the last whorl, very minute on the spire. The only specimen before me is not truncated. Inhabits Maroon Town in Hanover.

**intermedium** *Adams* *Cyclostoma*

Plate 60, fig. 8

1849, Cont. to Conch. no. 1: 5.

Species intermediate between *C. variabile* and *C. monstrosus*. Shell sculptured and colored like the pale varieties of *C. variabile*, with the large sutural spots less distinct; whorls of less diameter than in that species but larger than in *C. monstrosus*; apex truncate with the

loss of three whorls, four remaining, quite convex, with a rather deep suture; last whorl much detached from the penult whorl; aperture larger than in *C. monstrosum*, with the peritremes similar, but the outer one is less expanded.

Mean divergence about  $38^{\circ}$ ; length .5 inch; greatest breadth .38 inch; least breadth, .27 inch.

**intermedia Adams** *Cylindrella columna* Plate 61, fig. 18  
1849, Cont. to Conch. 2: 22.

Variety INTERMEDIA more resembles *C. brevis* in having the whorls a little convex; but the shell is longer than the type of *C. columna*, and the aperture a little larger.

Length .78 inch; breadth .22 inch.

**intermedia Adams** *Helicina dubiosa* Plate 86, figs. 1, 2  
1850, Cont. to Conch. no. 6: 94.

Var. *intermedia*; with a very small but distinct obtuse notch; the spire is less elevated, and the shell is larger and thinner. We should have considered this a distinct species, but are unable to find its limits in a series of specimens. It is intermediate between the type of the species and *H. solitaria*, the latter having an acute-angled notch. Height .24 inch; greatest breadth .34 inch; least breadth .29 inch.

**inuitata Adams** *Achatina* Plate 80, fig. 13  
1849, Cont. to Conch. no. 2: 26.

Shell elongated, gradually tapering in the upper half, cylindrical in the lower half, wide and blunt anteriorly, with a broad very deep constriction about the middle of the last whorl; dingy white; with very distant lamelli-form transverse ribs, about ten on each whorl, with strong irregular intervening striæ; spire with convex outlines; apex small; whorls nine, very convex, with a deeply impressed, and near the apex a channelled suture; last whorl small and very short; aperture ovate, acute above, much modified by the constriction of the last whorl, which constriction bends the sharp labrum into two large arcs of small circles; columella remarkably twisted and arcuate.

Length .16 inch; breadth .05 inch; length of aperture .033 inch.

This species approaches *Cylindrella* in general form, (so as to render useless the character of divergence,) and resembles *C. costulata* in sculpture.

Referred to *Spiraxis* (1850, *ibid.* no. 6: 87).

**invalida Adams Helix**

Plate 67, figs. 11-13

1850, Cont. to Conch. no. 5: 79.

Shell very convex above, somewhat flattened below, with a very slight sharp carina on the periphery: dark reddish or blackish brown, paler at the apex (and after exposure, as usual in the group), with a white lip, and a white line along the periphery: surface finely granulated, except on the upper whorls of the spire and around the umbilical region: spire much elevated: whorls five, moderately convex, with a lightly impressed suture: aperture like that of *H. sinuata*, but rather smaller, with the lip and teeth less robust, the right pair of teeth a little more connected at base, and their exterior indentations shorter: umbilicus wanting. This shell is much smaller than the common type of *H. sinuata*.

Greatest breadth .78 inch; least breadth .66 inch; height .46 inch.

**iota Adams Achatina**

Plate 80, fig. 7

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

[Stony Hill Turnpike Gate].

A. t. minimâ, gracili, corneâ; anf. 4, latissimis, lævibus; aperturâ elongatâ, suprâ acutissimâ; columellâ arcuatâ. Div. 12°; spiræ long. .08 poll.; long. tot. .135 poll.; lat. .045 poll.

Syntype specimens figured by Pilsbry, 1908, pl. 4, figs. 67, 71, 72.

**jacobensis Adams Helix**

Type not located

1851 (April), Cont. to Conch. no. 9: 172; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5:96.

Shell depressed conic, transversely ovate: yellowish horn color: with very fine impressed crowded striæ of growth: spire with the outlines but little convex: whorls four and one-half to five, a little convex, with a moderately impressed suture; last whorl subangular: aperture transversely ovate, laterally dilated: lip but little reflected and thickened except in the columellar part, which

is well thickened, reflected, and appressed: umbilicus wanting. In form this shell most resembles a very depressed *H. fuscocincta*, but is much more dilated laterally near the aperture.

Greatest breadth .94 inch; least breadth .75 inch; height .6 inch.

This species is named for its habitat, the parish of St. James.

*jamaicensis* *Adams* Pupa

Plate 82, fig. 9

1849, Cont. to Conch. no. 3: 37.

Shell cylindrical; pale brownish horn color; with fine oblique striæ of growth; spire tapering only near the summit, into an obtuse apex; whorls five, quite convex, with a deep suture; aperture semioval, with the right side longer, and shouldered above, and the transverse side a little oblique; to the right of the middle of the latter is a very prominent stout tooth; on the middle of the columella is another equally stout, but less prominent; on the right side is another prominent tooth directed between the two above-mentioned, and on each side of it a rather smaller tooth; lip moderately reflected; with a very small umbilicus.

This species is more exactly cylindrical than *P. servilis*, Gould, *P. procera*, Gould, &c. which have a similar aperture; the upper and lower teeth of the right side are more conspicuous, and the shell is much smaller.

Length .07 inch; breadth .025 inch.

*Jamaicia* *Adams* [subgenus]

1850, Cont. to Conch. no. 6: 88.

Type species (monotypic, *Cyclostoma anomalum* Adams).

*Cyclostoma* t. Choanopomiformi, aperturâ orbiculari, margine simplici: opereulo extus spiraliter lamellifero, et maximè convexo, intus laevi et maximè concavo.

The shell resembles the more typical species of *Choanopoma*, but has the peritreme simple, with the edge not much sharpened. The operculum is extremely convex externally and concave within; it has a spiral lamella, and its striæ of growth are lamelliferous. The only species known to us is described below, under the name of *Cyclostoma anomalum*.



**jayanum Adams Cyclostoma**

Plate 82, fig. 4

1849, Cont. to Conch. no. 1: 7.

Shell long, ovate-conic; whitish or brownish, with several narrow more or less interrupted sometimes nearly obsolete spiral brown lines, often with large irregular zigzag oblique spots of dark brown; with very closely set strong rounded transverse raised lines, which are a little larger in twos and threes at the summit like a minute crenulation; spire with moderately convex outlines; apex truncate with the loss of two whorls; four and one-half whorls remaining, quite convex, with a well impressed suture; aperture nearly circular; inner peritreme slightly produced and reflected; outer peritreme broad, white or pale yellow, a little concave, widest above and on the left side at the bottom of which it is subangular; umbilicus, very small.

Mean divergence  $50^{\circ}$ ; length .78 inch; greatest breadth .55 inch; least breadth .4 inch.

Var. *a*, with the outer peritreme fiery red. *C. pictum*, Humph. Mss., Sowb. resembles this species, but is smooth and has an extremely wide lip.

*solidum* non Menke; *jayanum*, new name (1850, *ibid.*, no. 2: 50).

**jayana Adams Helix**

Plate 65, figs. 5-7

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[Stony Hill; Río Magno].

*H. epistylum*, Müll., affinis;*H. jayana*;*H. epistylum*;

dente unâ lamelliformi longissimâ;

dentibus tribus, obliquis, tortis, brevibus;

t. latiore, subtus latissimè et profundè indentatâ;

t. angustiore, subtus perconvexâ, angustè indentatâ;

anf.  $9\frac{1}{2}$ .

anf. 9.

Alt. .9 poll.; lat. max. 1.18 poll.;

Alt. .1 poll.; lat. max. .1 poll.;

lat. min. 1.1 poll.

lat. min. .9 poll.

**jayanum Adams Stoastoma**

Plate 89, figs. 1-3

1849, Mon. Stoastoma, p. 14.

S. testâ subconicâ, cerinâ, lineis elevatis spiralibus nonnullis ornatâ; spirâ multum elevatâ; anfractibus  $4\frac{1}{2}$ , suturâ valdè impressâ, ultimo subgloboso; aperturâ subcampanulatâ; labro pectinato; labio multum soluto; umbilico sub-lato, lamellâ spirali haud multum elevatâ.

Form — globose conic;

color — yellowish brown;

sculpture — several spiral raised lines of which 4 or 5 are visible on the upper whorls;

spire much and somewhat concavely elevated;

whorls  $4\frac{1}{2}$ , convex, with a deep suture; last whorl subglobose;

aperture quite exactly semicircular, very slightly campanulate;

labrum moderately and above rather abruptly produced, scalloped by the produced carinæ;

labium much detached from the penult whorl, slightly curved;

umbilicus rather wide, with a moderately projecting lamella continued into the lower extremity of the labrum.

Mean divergence about  $80^{\circ}$ ; length .08 inch; greatest breadth .09 inch; least breadth .075 inch.

*josephinae* Adams *Helicina*

Plate 75, figs. 3, 4

1849, Cont. to Conch. no. 1: 14.

Shell conic above, much flattened beneath, with the periphery very acute and scalloped or imbricate; above irregularly mottled with yellow, green, and white; beneath copper red, with the centre pale green; spirally ribbed above, with very fine close spiral striæ beneath; spire with the outlines concave near the apex, rectilinear in the rest; apex acute; whorls six, flat or slightly concave; aperture a spherical triangle; labrum moderately thickened and reflected, much advanced above; deposit of the base thin.

Mean divergence  $100^{\circ}$ ; at the apex  $80^{\circ}$ ; length .27 inch; greatest breadth .43 inch; least breadth .36 inch.

This species belongs to *Trochatella*.

*jugosum* Adams *Cyclostoma*

Plate 54, figs. 9, 12

1850, Ann. Lyc. Nat. Hist. New York, 5: 59; 1851, Cont. to Conch. no. 8: 143.

[St. Elizabeth, Ch.].

Shell white, with a light brown epidermis: with rather deep transverse striæ, which are very regular on the upper whorls, and very irregular on the last whorl; with deep wrinkles commencing near the end of the penult

whorl, where they are somewhat regular and oblique, as they are also on the lower side of the last whorl, on the upper side of which they are irregular and knotty; the umbilical keel is obsolete: spire much depressed: whorls nearly five, well rounded, with a deeply impressed suture: aperture orbicular, slightly effuse and pointed above; lip scarcely sinuate above, much advanced along the middle of the right side, moderately thickened: umbilicus four-fifths as wide as the aperture. Operculum with a much elevated spiral lamella, in seven or eight whorls, which are much inflected but not so curvately as No. 1.

Mean divergence about  $145^{\circ}$ ; height .6 inch; greatest breadth 1.08 inch; least breadth .85 inch.

**labiosa Adams *Helicina palliata*** Plate 75, figs. 10–12  
1850, Ann. Lyc. Nat. Hist. New York, 5: 50; 1851, Cont. to Conch. no. 8: 134.

Maidstone, Manchester Par.

A variety of *Helicina palliata* occurs, in which the lip is excessively thickened both externally and internally, contracting the aperture. It may be designated by the name of LABIOSA. It is a local variety.

**laeviusculus Adams *Bulinus*** Plate 80, fig. 15  
1845, Proc. Boston Soc. Nat. Hist. 2: 13.  
[W part of St. Ann's].

B. t. minimâ, tenui, nitidâ, diaphanâ, ovatâ, leongatâ; anf. 6, haud multum convexus; striis paucis, distantibus, exilissimis, longitudinalibus — ornatis; aperturâ elongatâ, suprâ angustâ, acutâque; labro tenui infrâ retracto; columellâ tortâ. Div.  $18^{\circ}$ ; spiræ long. .16 poll.; long. tot. .25 poll.; lat. .075 poll.

[Syntype specimens figured by Pils., 1907a, pl. 4, fig. 44.]

**lamellifera Adams *Helix*** Plate 84, figs. 4–6  
1849, Cont. to Conch. no. 2: 31.

Shell hemispherical; brownish horn color: epidermis with sharp but microscopic projecting lamelliform points, which are frequently worn off; with rather coarse and distant striæ of growth; spire convex, moderately elevated; apex subacute; whorls five and one-half, a little convex, with a well impressed suture; aperture lunate; on the inside of the periphery of the last whorl, a little

within the labrum, commences a slightly elevated lamella, which extends from  $100^{\circ}$  to  $120^{\circ}$  farther in; labrum very thin and sharp; columella somewhat thickened, very oblique; columellar region moderately indented.

Greatest breadth .39 inch; least breadth .35 inch; height .27 inch.

**lamellosum** *Adams Cyclostoma*

Plate 56, fig. 11

1850, Ann. Lyc. Nat. Hist. New York, 5: 54; 1851, Cont. to Conch. no. 8: 138.

Shell ovate conic, rather short: with several inequidistant unequal more or less interrupted spiral lines of brown, of which four or five appear on the penult whorl: with rather closely set sharp elevated transverse lamellæ, which are more prominent at the sutures; without spiral striæ, except a few ridges in the umbilicus: apex truncate with the loss of two or three whorls: spire with the outlines quite convex: about three and one-half whorls remaining, very convex, with a rather deep suture: aperture orbicular, with two peritremes, of which the outer one is narrow, auriculate above, reflected nearly into the plane of the aperture; the inner peritreme is rather stout, well produced, a little reflected. The operculum has a spiral lamella, which has about four and one-half whorls, and is but little elevated and much produced laterally.

Mean divergence about  $50^{\circ}$ ; length after truncation .49 inch; greatest breadth .4 inch; least breadth .34 inch.

This shell much resembles *C. tectilabre*, but the outer peritreme is more expanded, and the margin of the operculum is not reflected backwards.

**lata** *Adams Cyliindrella*

Plate 62, fig. 4

1850, Cont. to Conch. no. 5: 82.

Shell very robust, cylindrical in the lower three-fourths, rapidly tapering above: wax color, with a dark brown line next below the suture: with excessively minute crowded transverse striæ; anterior spiral keel very prominent: apex not very broadly truncate, with the loss of — whorls: whorls remaining eight and one-third, very narrow, slightly convex, with a lightly impressed

suture: aperture considerably produced beyond the penult whorl, transversely elliptical: lip broadly reflected. This species in several respects combines the characters of *C. sanguinea* and *C. rosea*.

Length .86 inch; breadth .33 inch.

**lata Adams Pupa**

Plate 90, fig. 10

1849, Cont. to Conch. no. 3: 37.

Shell very short, subcylindrical, truncated anteriorly; pale brown or horn color; with very regular rather distant microscopic transverse lines, which are more distinct on the upper whorls; spire cylindrical; apex conoid; whorls five, very convex, with a deep suture; last whorl making nearly a right angle between its lateral and anterior surfaces; aperture about two-thirds of a circle, without teeth; lip not reflected, with a smooth blunt margin; without umbilicus.

Length .075 inch; breadth .055 inch.

**latior Adams Succinea**

Plate 63, fig. 11

1849, Cont. to Conch. no. 3: 38.

Shell obliquely elliptical; pale amber color; extremely thin, with rather coarse unequal striæ of growth; spire small; apex acute; whorls three and one-third; quite convex, with a well impressed suture; aperture oval, acutely angular above, not oblique. This species is intermediate, in the form of the last whorl and in its proportion to the spire, between *S. campestris* Say, and *S. obliqua* Say, but is much thinner than either of those species. *S. Sagra* (?) Orb., the allied species of Jamaica, is narrower and smoother.

Length .53 inch; breadth .34 inch; length of aperture .43 inch; breadth .27 inch. Of another individual, length .43 inch; breadth .27 inch.

**leana Adams Helicina**

Type not located

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

*H. t. perdepessâ, pallidè rufâ, vel albidâ; epidermide exilissimè hirsutâ; anf. 4½, haud multùm convexus, striis decurrentibus exilissimis — ornatis; anf. ultimo haud angulato; aperturâ a labri dentibus duobus obtusis suprâ et infrâ contractâ; operculo tenui. Div. 135°; alt. .13 poll.; lat. max. .27 poll.; lat. min. .22 poll.*

Synonym of *H. depressa* Gray (1851, *ibid.*, no. 9: 181).

**leanum Adams Stoastoma**

Plate 89, figs. 7-9

1849, Mon. Stoastoma, p. 15.

S. testâ subconicâ, cerinâ, striis spiralibus exilissimis creberrimis ornatâ; spirâ acutâ, convexâ, elevatâ; anfractibus 5, ultimo alto; aperturâ haud multum campanulatâ, semicirculo paululum majore; labro haud pectinato; labio multum soluto; umbilico angusto.

Form — globose-conic;

color — yellowish brown;

sculpture — numerous excessively minute inequidistant spiral striæ;

spire much and convexly elevated;

whorls 5, convex with a well impressed suture; last whorl high, elegantly rounded;

aperture rather more than a semicircle, a little campanulate;

labrum well produced, but not abruptly produced above, not scalloped;

labium much detached from the penult whorl, slightly curved at both extremities;

umbilicus narrow.

Mean divergence  $75^{\circ}$ ; length .07 inch; greatest breadth .07 inch; least breadth .06 inch.

**leporilabre Adams Cyclostoma hillianum**

Plate 56, fig. 8

1851 (April), Cont. to Conch. no. 9: 153; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 77.

This variety is distinguished by having an abrupt reflection of a small part of the outer peritreme next above its contact with the penult whorl. The outer peritreme is also very much expanded, and is somewhat sinuate above.

**levis Adams Achatina**

Plate 80, fig. 8

1849, Cont. to Conch. no. 2: 26.

Shell much elongated, conic; very pale brown, shining; very thin, smooth, with microscopic transverse striæ, which are quite numerous on the upper whorls; spire with rectilinear outlines; apex not very small; whorls seven, a little convex, with a moderately impressed suture; aperture ovate, acute above; labrum thin and sharp; columella slightly arcuate.

Mean divergence  $14^{\circ}$  or  $15^{\circ}$ ; length .42 inch; breadth .1 inch; length of aperture .13 inch.

This may be a variety of *A. pellucens*; but that shell has more numerous striæ, a constant difference in the individuals which I have seen.

May be a variety of *pellucens* (1849, *ibid.*, 2: 26). [Unique type [holotype] figured by Pilsbry, 1907a, pl. 16, figs. 3, 4.]

**levis Adams** *Cylindrella maugeri*

Plate 63, fig. 6

1851 (April), Cont. to Conch. no. 9: 162; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 86.

Shell robust but rather thin: livid black in the upper whorls, pale livid brown along the middle, anteriorly with a rapidly widening pure white stripe, which unites behind the lip with a broad transverse white stripe that runs through a large triangular black spot; lip white: without striæ. Some pale specimens have a tinge of red along the middle. Inhabits Kilmarnock, in the east part of Westmoreland. In another part of Westmoreland is a subvariety, in which the form is less robust, the anterior white stripe is larger and tinged with yellow, and the transverse white stripe, being interrupted by the black spot, appears more like a short spiral stripe: the lip is rather less reflected, and the aperture smaller and more oblique.

**ligata Adams** *Achatina*

Plate 79, fig. 7

1849, Cont. to Conch. no. 2: 25.

Shell elongate, subconic, with a broad deep constriction around the middle of the last whorl; pale brown, with dark brown narrow transverse stripes, which are sometimes nearly obsolete, of which there are about three on each whorl, except on the first three or four, which have none; varicate at the last one or two brown stripes, with rather fine crowded transverse striæ; spire with the outlines moderately convex; apex small; whorls about seven and one-half, a little convex, with a well impressed suture; aperture long, much modified by the intrusion of the labrum at the constriction of the last whorl; labrum thickened at the constriction; columella a little twisted and arcuated.

Mean divergence  $24^{\circ}$ ; length .68 inch; breadth .195 inch; length of aperture .26 inch.

[Syntype specimen figured by Pilsbry, 1907a, pl. 11, fig. 57.]

**lima Adams Cyclostoma**

Plate 56, fig. 9

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

[18 to 20 mi N of Spanish Town, not far from Rio Magno.]

*C. lincinae* affine, t. perexilūs decussatā, aculeis brevioribus, subtus costulis revolvētib; majoribus instructā; labro nunquam crenulato. Div.  $56^{\circ}$ ; alt. .9 poll.; lat. max. .7 poll; lat. min. .45 poll.

**lindsleyanum Adams Stoastoma**

Plate 88, figs. 7-9

1849, Stoastoma, p. 12.

*S. testā* subconicā, albidā, carinis exilib; et striis exilissimis multis spiralibus ornatā; spirā elevatā; anfractibus  $4\frac{1}{2}$ , suturā haud valdē impressā, ultimo anfractu subgloboso; aperturā vix campanulatā; labro haud multū producto, subpectinato; labro multū producto, subpectinato; labio multū soluto; umbilico sub-lato, lamellā spirali ornatō.

Form — globose-conic;

color — whiteish;

sculpture — several spiral carinæ, of which about five are visible on the spire, alternating with very delicate striæ;

spire rather elevated convexly;

whorls  $4\frac{1}{3}$ , rather convex, with a moderately impressed suture; last whorl large and high;

aperture slightly companulate;

labrum moderately and above not abruptly produced, pectinated by the spiral carinæ;

labrum moderately detached from the penult whorl, a little curved in the lower fourth part;

umbilicus not large, with a well developed spiral lamella continued into the lower extremity of the labrum.

Mean divergence  $93^{\circ}$ ; length .09 inch; greatest breadth .11 inch; least breadth .095 inch.

**lineata Adams Helicina**

Plate 86, figs. 9-11

1845, Proc. Boston Soc. Nat. Hist. 2: 12.

*H. t. depressā*; anf.  $4\frac{1}{2}$ , lineis elevatis parallelis distantibus decurrentibus — ornatis; anf. ultimo a lineā majori subangulato; aperturā *H. leanæ* simili. Div.  $112^{\circ}$ ; alt. .09 poll.; lat. max. .15 poll.; lat. min. .13 poll.



**longispira Adams Achatina**

Plate 80, fig. 9

1850, Cont. to Conch. no. 7: 104.

Shell much elongated, conoidal: pale brown: shining, with very lightly impressed not very numerous transverse striæ: apex obtuse: outlines of the spire slightly curvilinear: whorls ten, moderately convex, with a well impressed suture: aperture subrhomboidal, subacute above: labrum thin, slightly advanced in the upper half, retreating below: columella very oblique, distinctly truncated.

Mean divergence about  $12^{\circ}$ ; length of spire .33 inch; total length, .45 inch; breadth .09 inch.

**macilenta Adams Helicina**

Plate 78, figs. 3-5

1849, Cont. to Conch. no. 1: 13.

Shell rather small and thin, subdiscoidal, flattened beneath; pale brown; epidermis extremely thin, microscopically hirsute or chagrined; spire a little elevated and convex; whorls nearly four and one-half, scarcely convex; aperture large; labrum thin, sharp, moderately expanded and reflected, with a deep curved incision below the columella similar to that of *H. palliata*; the produced columella is strongly margined on the inner side.

Mean divergence about  $135^{\circ}$ ; length .16 inch; greatest breadth .29 inch; least breadth .23 inch.

**macmurrayi Adams Helix** Plate 72, figs. 7, 8; Plate 84, fig. 12

1849, Cont. to Conch. no. 2: 32.

Shell globular; white, with a very thin brown epidermis; with very fine striæ of growth, and very lightly impressed unequal spiral lines; spire with the outlines quite convex; apex very obtuse; whorls nearly six, quite convex, a little concave at the upper part, with a lightly impressed suture; aperture suborbicular, a little modified by the intrusion of the last whorl; labrum not reflected, rather sharp, but in the old shells not thin; umbilicus wanting.

Greatest breadth 1.9 inch; least breadth 1.6 inch; height 1.5 inch.

**macrospira Adams Bulimus**

Type not located

1851 (April), Cont. to Conch. no. 9: 169; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 93.

Shell much elongated, conic: pâle horn color, or brownish, with a few scattering stripes of dark brown: shining, with excessively minute distant striæ: spire with the outlines a little concave above, otherwise slightly curvilinear: apex obtuse, rather small: whorls twelve, a little convex, with a well impressed suture; last whorl short: aperture ovate, rather wide: labrum thin and sharp: columella nearly straight.

Mean divergence about  $18^{\circ}$ ; length .8 inch; breadth .22 inch; length of aperture .2 inch. Inhabits Maroon Town, in St. James.

**magna** *Adams* *Cylindrella rosea*

Plate 62, fig. 1

1849, Cont. to Conch. no. 2: 21.

length 1 inch; breadth .34 inch. [See Pilsbry, 1903a: 136.]

**magna** *Adams* *Geomelania*

Plate 81, fig. 7

1850, Cont. to Conch. no. 6: 94.

Shell elongate conic: whitish: with, on each whorl, about thirty-eight rather slender transverse much arcuated ribs: spire with rectilinear outlines: apex truncate with the loss of eight whorls: whorls remaining six and one-half, moderately convex, with a well impressed suture: aperture ovate, widely and deeply effuse: labrum well expanded and reflected; with the linguiform part at the anterior end, wide, obtuse, well produced obliquely and laterally: labium well thickened, slightly separated from the penult whorl.

Mean divergence about  $12^{\circ}$ : length .65 inch; greatest breadth .19 inch; least breadth .15 inch: length of the part lost by truncation .22 inch.

**major** *Adams* *Cylindrella rosea*

1849, Cont. to Conch. no. 2: 21. [nomen nudum]

**maritimum** *Adams* *Cyclostoma*

Plate 59, fig. 10

1846, Proc. Boston Soc. Nat. Hist. 2: 102.

[Galina Pt.].

C. t. elongatâ, decollatâ, aurantiâ, costulis exilibus plurimis eleganter ornatâ; suturâ exilè crenulatâ; anfractibus duobus perditis, septem reliquis; umbilico minimo; aperturâ ab anfractu penultimo disjunctâ, suprâ angulatâ et auriculatâ; labro acuto.

Div.  $30^{\circ}$ . Alt. .63; lat. .27 poll. Hab. Jamaica.

**media Adams Geomelania**

Plate 81, fig. 8

1850, Cont. to Conch. no. 6: 96.

Shell nearly cylindrical: whitish: with, on each whorl, about thirty-five much arcuated prominent acute-edged rather slender transverse ribs: spire with rectilinear outlines: apex truncate with the loss of — whorls: whorls remaining six, moderately convex, with a well impressed suture: aperture ovate, widely effuse: labrum moderately expanded and thickened; with the linguiform part at the anterior extremity of the right side, well produced obliquely, not very narrow, subacute: labium well thickened, separated slightly from the penult whorl except at the upper extremity.

Mean divergence about  $11^{\circ}$ ; length .4 inch; greatest breadth .107 inch; least breadth .1 inch.

[Lectotype figured by Clench & Turner 1948a, pl. 23, fig. 10.]

**media Adams Helix cara**

Plate 69, figs. 10–12

1851, Cont. to Conch. no. 9: 169.

A series of specimens connects *H. cara* with *H. amabilis* so closely, that the latter cannot be entitled to rank as more than a variety. Some which have the color of *H. cara*, and a well elevated spire, but otherwise resemble *H. amabilis*, may be called var. *MEDIA*.

**megastoma Adams Helicina**

Plate 82, figs. 1, 2

1849, Cont. to Conch. no. 1: 14.

Shell globose conic, smooth and shining, rather thick, yellowish brown; spire with very convex outlines; whorls four and one-half, a little flattened; last whorl very large and high, with corresponding size of the aperture, which is quite exactly semicircular; labrum moderately reflected and thickened; columella and adjacent part of the last whorl bent into the plane of the aperture; the columella is produced into a very minute tubercle.

Mean divergence  $108^{\circ}$ ; length .2 inch; greatest breadth .33 inch; least breadth .25 inch.

**micans Adams Achatina**

Plate 80, fig. 6

1849, Cont. to Conch. no. 2: 26.

Species similar to *A. levis*, but the shell is less elongated, the outlines of the spire are more convex, the aper-

ture is shorter, and the columella is more twisted and not arcuate.

Mean divergence  $17^{\circ}$ ; length .41 inch; breadth .115 inch; length of aperture .12 inch.

[This specimen, "doubtless the type," figured by Pilsbry 1907a, pl. 3, fig. 35.]

**microstoma Adams Helicina**

Plate 77, figs. 9, 10

1850, Ann. Lyc. Nat. Hist. New York, 5: 51; 1851, Cont. to Conch. no. 8: 135.

Shell globose conic, moderately thickened: "brown, shaded off to a smoky white along the suture" and on the periphery of the last whorl: with rather light striæ of growth, in which are a few spiral series of punctures: apex obtuse: spire with the outlines more or less and not uniformly curvilinear: whorls rather less than five, moderately convex, with a well impressed suture; last whorl subplanulate beneath: aperture semi-elliptical, compressed above and below, laterally dilated; with the lip sinuate, well expanded and reflected except at the extremities; with the slit not very deep, rather wide.

Mean divergence  $60^{\circ}$ ; greatest breadth .65 inch; least breadth .52 inch; height .4 inch.

The slit is about as deep as in *H. consanguinea*, but the sides are less divergent. The punctate spiral series indicate spiral lines of hairs on the epidermis. For two faded specimens I am indebted to Mr. Holland, who has one fresh shell, the color of which he describes as quoted above, and as faintly indicated in the best of the specimens before me. In form it approaches more nearly to *H. ampliata* and *H. Jamaicensis* than any of the group, which is characterized by an anterior notch or slit in the margin of the aperture.

**minimus Adams Bulimus**

Plate 89, fig. 16

1849, Cont. to Conch. no. 2: 28.

Shell very much elongated, cylindrical; translucent, white; elegantly sculptured with very numerous flat slightly prominent arcuate ribs, about twenty-five on each whorl, — and numerous microscopic spiral striæ; spire with rectilinear outlines; apex very obtuse; whorls seven, long, very convex, with a very deep suture; last

whorl very long and narrow; aperture short, moderately acute above, well rounded below; labrum sharp; columella not perceptibly thickened.

Mean divergence  $8^{\circ}$  or  $9^{\circ}$ ; length .1 inch; breadth .026 inch; length of aperture .024 inch.

**minor Adams Geomelania**

Plate 81, fig. 9

1849, Cont. to Conch. no. 2: 18.

This may be only a variety of the preceding [*jamaicensis*], but the dimensions given below are those of the largest, among several hundreds, which we have seen. The most essential difference is in the aperture, which is but slightly effuse; the labrum is throughout much expanded convexly, and is by no means so disproportionately produced in the lower part. The apex is truncate with the loss of 6 or 7 whorls.

Mean divergence  $14^{\circ}$  to  $15^{\circ}$ ; length .41 inch; greatest breadth .13 inch; least breadth .14 inch.

**minor Adams Helix epistylum**

Plate 65, figs. 8, 9

1851 (April), Cont. to Conch. no. 9: 173; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 97.

*Helix epistylum* var. MINOR differs from the common type of the species in being much smaller, with a more rounded outline; beneath it is considerably more convex; the surface is less shining. Greatest breadth .52 inch; least breadth .49 inch; height .45 inch. It inhabits Westmoreland.

**mirabilis Adams Bulimus**

Plate 81, fig. 14

1849, Cont. to Conch. no. 2: 29.

Shell rather long and conic, with two-thirds of each whorl enormously inflated, gradually more abruptly with the progress of growth, so as to give to the shell the form of a screw; subtransparent, whitish; with numerous microscopic spiral striæ, and very distant transverse erect lamellar ribs, which have smooth rounded edges, and are most elevated at the summit of the convexity of the whorls, and diminish much over the anterior extremity of the shell; spire with rather convex outlines; apex with the inflation proportionally much longer and the ribs but slightly elevated; whorls about seven, with an indistinct suture; aperture modified by the form of

the last whorl at its termination, and by the remarkably prominent and mush twisted columella, nearly into the form of the figure 8.

Length .1 inch; breadth .062 inch.

This most extraordinary of all the land shells which I have seen, strikes the beholder with amazement, and its novelty renders description difficult.

Is *Spiraxis* (*ibid.*, 9: 168).

[Syntype specimen figured by Pilsbry, 1907a, pl. 1, fig. 3.]

**mirandum Adams Cyclostoma**

Plate 58, fig. 8

1849, Cont. to Conch. no. 1: 4.

Shell elongate, conic; brownish white, with a series just below the suture of large distant square brown spots, and with on the upper whorls three, and on the last five narrow somewhat interrupted brown spiral lines; covered with closely-set rounded transverse raised lines; which are decussately crenulated by numerous faint spiral striæ; spire with moderately convex outlines; apex truncate with the loss of two or two and one-half whorls; four or four and one-half whorls remaining, convex, with a deep suture; aperture almost exactly circular; inner peritreme of old shells produced to an extraordinary degree, with a few distant lamellæ girdling the outside; outer peritreme considerably produced, reflected a little back of the plane of the aperture, slightly striated, shining; umbilicus small, extending through the truncate apex.

Mean divergence  $40^{\circ}$ ; length .7 inch; greatest breadth .45 inch; least breadth .37 inch.

**modestum Adams Cyclostoma**

Plate 58, fig. 7

1849, Cont. to Conch. no. 1: 6.

Shell small, elongate; whitish; with thin raised laminae, which are more distant on the upper whorls; spire with moderately convex outlines; apex truncate with the loss of two or three whorls; about three and one-half whorls remaining, quite convex, with a rather deep suture; last whorl a little detached from the preceding near the aperture; aperture like that of *C. Wilkinsonii*, but smaller, with the outer peritreme a little wider proportionally

and without spots; umbilicus very narrow, but extending through.

**monodon** *Adams Bulimus*

Plate 81, fig. 17

1849, Cont. to Conch. no. 2: 28.

Shell ovate-conic; dingy white; with some slight striæ of growth; spire with the outlines somewhat convex; apex subacute; whorls nearly five and one-half, a little convex and shouldered, with a well impressed suture; last whorl large and wide, sometimes a little constricted near the aperture, which is rather wide, ovate, moderately acute above; labrum thin and sharp; columella straight, with an oblique tooth near its extremity; umbilicus very small.

Mean divergence  $45^{\circ}$ ; length .25 inch; breadth .15 inch; length of aperture .13 inch.

[2 syntype specimens figured by Pilsbry, 1907, pl. 43, figs. 41, 42.]

**monstrosum** *Adams Cyclostoma*

Plate 60, fig. 9

1849, Cont. to Conch. no. 1: 5.

Shell moderately elongate; translucent, whitish, with unequal irregular brown spots, which are arranged for the most part in transverse bands, with the largest spots just below the suture; very finely decussated, but with the loss of two or three whorls; about four and one-half remaining, very convex, with a very deep suture; last fourth part of the last whorl diverging very abruptly and very far from the penult whorl; aperture small, exactly circular; inner peritreme moderately produced; outer peritreme enormously expanded, except on the inner side, convexly reflected back of the plane of the aperture, smooth and shining, with reddish brown rays; umbilicus narrow, but very plainly extending through the truncate apex.

Mean divergence about  $35^{\circ}$ ; length .56 inch; greatest breadth .38 inch; least breadth .27 inch.

**montana** *Adams Cyliindrella*

Plate 62, fig. 9

1849, Cont. to Conch. no. 2: 20.

[Manchester].

Shell subcylindrical, tapering above; pale red, rarely white; with closely set extremely fine oblique striæ,

which are most arcuate above the middle, with a very small rather prominent carina anteriorly, slightly angulated just above the middle of the last whorl; spire with convex outlines in the upper third, in the rest rectilinear, above the place of truncation rectilinear up to the third and fourth whorls, and there slightly concave; apex broadly truncate with the loss of ten or eleven whorls; nine or ten remaining, scarcely convex, with a lightly impressed slightly marginate suture; last whorl produced perpendicularly to the axis of the spire; aperture a little dilated on the right, otherwise orbicular, a little spreading; lips well reflected only at the extreme margin.

Length .58 inch; breadth .163 inch.

**mordax** *Adams Cyclostoma*

Plate 58, fig. 4

1849, Cont. to Conch. no. 1: 12.

Shell much elongated; pale brown, often at the summit deep reddish brown, with several spiral series of very small deep brown spots, of which those next below the suture are the larger, and a somewhat interrupted band of the same around the anterior extremity; with closely set much elevated sharp transverse lamellæ, which are slightly crenulated by numerous spiral impressed lines, of which one next below the suture is more deeply impressed; spire with scarcely convex outlines; apex truncate with the loss of nearly three whorls; nearly five quite convex whorls remaining, with a well impressed suture; last whorl a little detached from the penult whorl next the aperture; aperture ovate-orbicular; lip simple, slightly spread, reflected nearly into the plane of the aperture, more developed at the angle above, and more advanced in the middle of the right side; umbilicus very small.

Mean divergence  $28^{\circ}$ ; length .58 inch; greatest breadth .32 inch; least breadth .25.

**moribundum** *Adams Cyclostoma*

Plate 58, fig. 11

1849, Cont. to Conch. no. 1: 5.

Shell elongate, ovate-conic; whitish, with a few pale brown spots just below the suture, and often with several much interrupted spiral series of the same color, with a deep brownish purple summit and a lip of wax-



yellow; with closely set regular rounded transverse raised lines, which are decussately crenulated by numerous faint spiral striæ; spire with moderately convex outlines; apex truncate with the loss of two or three whorls; four whorls remaining, with a deep suture, the last a little detached from the preceding near the aperture, which is ovate orbicular and subangular above; inner peritreme a little produced and reflected; outer peritreme moderately expanded, concave, and forming with the inner one a groove, striate, subalate above, narrow on the left side; umbilicus narrow, extending through the truncate apex.

Mean divergence  $36^{\circ}$ ; length .58 inch; greatest breadth .36 inch; least breadth .28 inch.

**moricanthum** *Adams* *Stoastoma*

Plate 90, figs. 1-3

1850, Ann. Lyc. Nat. Hist. New York, 5: 66; 1851, Cont. to Conch. no. 8: 150.

Shell globose conic; horn color, or very pale yellowish green: with numerous very fine somewhat tortuous raised spiral lines, of which three or four are visible on the spire; and two or three still more minute lines in each interspace; but in some, all the lines are nearly equal: spire well elevated, with the outlines nearly rectilinear: whorls four, quite convex, with a well impressed suture; last whorl subglobose: aperture rather larger than a semicircle, a little campanulate: labrum moderately and above not abruptly produced, scarcely modified by the larger spiral lines: labium moderately detached from the penult whorl, slightly curved and reflected: umbilicus narrow, with the spiral lamella very small. Operculum rather deeply concave, subauriculate, very finely papillose.

Mean divergence about  $85^{\circ}$ ; height .075 inch; greatest breadth .085 inch; least breadth .075 inch.

This species resembles *S. Redfieldianum*; but the shell is larger, the spiral lines are smaller, and the spire is larger in proportion at the last whorl.

**moussonianum** *Adams* *Cyclostoma*

Plate 55, fig. 8

1851 (April), Cont. to Conch. no. 9: 153; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 77.

Shell short, globose-conic: dingy white, with numerous more or less interrupted spiral reddish brown lines: with more or less crowded transverse subimbricate lamellæ, which are decussated by numerous small spiral ridges, with the intersections well developed into spines in the angle of the suture: spire with very convex outlines; apex usually truncate with the loss of two whorls; remaining whorls three and one-half, very convex; last whorl a little detached from the penult whorl near the aperture, but soldered to it by the outer peritreme: aperture circular; inner peritreme moderately produced; outer peritreme much expanded, and reflected very convexly back of the plane of the aperture; imbricate, slightly and finely scolloped: umbilicus not very wide, extending through the truncate apex.

Mean divergence about  $75^{\circ}$ ; length .54 inch; greatest breadth .53 inch; least breadth .38 inch.

Operculum very convex, very closely striate obliquely, with the spiral lamella moderately raised.

This shell closely resembles *C. spinulosum*, except in the outer peritreme and in the operculum, which widely distinguish it from the allied species. The operculum, however, somewhat resembles that of *C. anomalum*, and the lip is like that of *C. retrorsum*.

**multicarinata** *Adams Trochatella pulchella* Plate 75, figs. 1, 2  
1851 (April), Cont. to Conch. no. 9: 159; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 83.

A small thick variety of *Trochatella pulchella* occurs in Portland, with the spiral ridges remarkably prominent. It may be designated by the name of MULTICARINATA.

**munda** *Adams Helix*

Plate 72, figs. 5, 6

1849, Cont. to Conch. no. 2: 32.

Shell depressed globular; with a rather thick epidermis, which is horn colored on the upper whorls, and greenish brown on the rest; with excessively fine striæ of growth: spire convex, moderately elevated; apex very obtuse; whorls fine, moderately convex, with a well impressed suture; last whorl large, somewhat depressed;

aperture suborbicular, angular at the end of the oblique white columella, and modified considerably by the penult whorl; lip excessively thin and sharp; umbilicus wanting.

This shell resembles the young of the preceding [*macmurrayi*], which when young is much flattened on the spire, has the aperture much larger, and the columella is straight.

Greatest breadth .6 inch; least breadth .5 inch; height .4 inch.

**mutatum Adams Cyclostoma**

No type selected

1851, Cont. to Conch. 9: 154.

New name for *C. articulatum* Sowb. 1843 not Gray 1836.

**muticum Adams Cyclostoma**

Plate 57, fig. 8

1849, Cont. to Conch. no. 1: 11.

Species like *C. armatum*, but the shell is more slender; and more delicately striated transversely; the outlines of the spire are more convex; there are no sutural crenulations; the aperture is smaller, less regularly ovate, and more angulated above.

Mean divergence  $28^{\circ}$ ; length .57 inch; greatest breadth .27 inch; least breadth .23 inch.

**nemoraloides Adams Helix**

Plate 73, figs. 7, 8

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

[White Rock near Goshen; also Galina Pt.].

*H. nemoralis* affinis; sed t. subtus valdè planulatâ; apice plus elevatâ; anf. 5; anf. ultimo fasciis tribus fuscis semper ornato; superis bifasciatis. Magnit. sicut in *H. nemoralis*.

**nemorensis Adams Achatina**

Plate 79, fig. 9

1849, Cont. to Conch. no. 2: 25.

Shell subfusiform; pale brown or pale reddish brown, with dark brown transverse stripes, which are not very wide, reaching nearly to the anterior extremity, about four on each whorl except on the first three, which have none; with very dense rather small striæ; spire with the outlines quite convex; whorls eight, moderately convex, with a well impressed suture; aperture long, narrow in the upper half, and very acute above; labrum sharp, produced along the middle, a little angulated below the

middle; columella nearly straight, rather slender, and pointed.

Mean divergence  $30^{\circ}$ ; length .83 inch; breadth .25 inch; length of aperture .35 inch.

Var. *a*, with very few brown stripes.

[Syntype specimen figured by Pilsbry, 1907, pl. 11, figs. 62, 65.]

**newcombianum** *Adams Cyclostoma*

Plate 59, fig. 1

1849, Cont. to Conch. no. 1: 8.

Shell much elongated, conic; very pale orange, elegantly decorated with several spiral series of small brown oblique spots which have white shadows, the spots being in transverse series; with numerous small but strong transverse whitish raised lines, which are mostly in groups of three to five and at the summits are developed into minute sutural crenulations; spire with slightly convex outlines; apex truncate with the loss of two or three whorls; five whorls remaining, with a well impressed suture; last whorl detached from the penult whorl near the aperture; aperture suborbicular, quite angular above; inner peritreme slightly produced; outer peritreme moderately expanding, shining, reflected exactly into the plane of the aperture, rather thick, nearly wanting opposite to the penult whorl, moderately produced above into a sharply angular concave wing; umbilicus very small.

Mean divergence  $37^{\circ}$ ; length 52 inch; greatest breadth .28 inch; least breadth .22 inch.

*Cyclostoma Newcombianum*, Ad., may be erased from the catalogue. It has been proved to belong to the Island of St. Thomas. I am indebted to the kindness of a friend for an extensive suite of varieties of this species, which he collected in that island. The most common variety is that which has been known in many collections as *C. Swiftianum*. This name was derived from the MSS. of Dr. W. Newcomb, now of Honolulu in the Sandwich Islands, and was given to the species in honor of Robert Swift, Esq., of St. Thomas. A red variety has been described in the Zeitschrift fur Malakazologie, subse-

quently to our description, by Dr. Pfeiffer, as *C. Troscheli*. The synonymy therefore will stand thus:

(*Cyclostoma Swiftianum* Newcomb MSS., 1845.)

——— *Newcombianum* Ad. Cont. Conch. Sept., 1849.

——— *Troscheli* Pfr., Zeitschr., June, 1850.

[1851, Cont. to Conch. no. 9, p. 177.]

**nigrescens** Adams *Cylindrella maugeri* Plate 63, fig. 7

1851 (April), Cont. to Conch. no. 9: 162; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 86.

Shell robust in the lower part, conic above: black on the last whorl and on several of the upper whorls, fading into brown in the middle, with a dingy white stripe anteriorly and a red lip: with a few striæ behind the lip. In some localities the shell is of medium size and form, rather more coarsely striate on the last half of the last whorl, and faintly striated on the first half. Inhabits Portland, and Manchioneal in St. Thomas-in-the-East.

**nigrilabre** Adams *Cyclostoma jayanum* Plate 57, fig. 12

1850, Cont. to Conch. no. 6: 89.

[Manchester].

A large and very dark colored variety of *Cyclostoma Jayanum* has the outer peritreme black, and may be designated by the name of *nigrilabre*.

**nitens** Adams *Cyclostoma*

Plate 57, fig. 1

1849, Cont. to Conch. no. 1: 8.

Shell moderately elongated, conic; shining, brownish white with white spots, and spiral interrupted bands of pale brown, deep orange near the aperture; very finely decussate with nearly equal slightly elevated lines, but on the upper whorls the transverse lines are more prominent and the spiral lines obsolete; spire with the outlines slightly convex; apex truncate, with the loss of two or three whorls; four whorls remaining, with a well impressed suture; aperture large, ovate orbicular, moderately angulated above; inner peritreme scarcely distinct, reflected upon the outer peritreme, which is reflected nearly into the plane of the aperture, is moderately spreading, sharp, thickened, narrower and bent back opposite the umbilicus, which is small.

Mean divergence  $40^{\circ}$ ; length .56 inch; greatest breadth .36 inch; least breadth .26 inch.

Probably only a variety [of *augustae*] (1851, *ibid*, no. 9: 155).

**nitida** *Adams Achatina*

Plate 79, fig. 8

1850, Cont. to Conch. no. 7: 103.

Shell well elongated, ovate-fusiform: reddish brown, with very dark brown transverse stripes, about four or five on each whorl: varicose coincidently with the brown stripes, the varices being indicated by the thickening of the shell within, and a deeply impressed line in front of each; well polished and shining: apex subacute: spire with the outlines rectilinear, or moderately convex: whorls seven to eight, moderately convex, with a well impressed suture: aperture long ovate, very acute above: labrum sharp, subangular at two-thirds of the distance from its upper extremity: columella much curved, broadly truncated.

Mean divergence  $30^{\circ}$  to  $35^{\circ}$ ; length .96 inch; greatest breadth .31 inch; least breadth .3 inch; length of aperture .44 inch.

[Syntype specimen figured by Pilsbry, 1907a, pl. 11, fig. 59.]

**nitidiusculus** *Adams Bulimus*

Plate 81, fig. 15

1849, Cont. to Conch. no. 2: 27.

Shell long ovate conic; dingy white; smooth and shining, with a few very distant excessively minute transverse striæ; spire with nearly rectilinear outlines; apex rather obtuse; whorls nearly six, rather convex, with a well impressed suture last whorl long; aperture long ovate, quite acute above; labrum very thin and sharp; columella somewhat twisted.

Mean divergence  $24^{\circ}$ ; length .24 inch; breadth .1 inch; length of aperture .1 inch.

**nobilior** *Adams Pupa*

Plate 82, fig. 8

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

[Road leading from Spanish Town to Annotto Bay, a little less than 18 mi from former place.]

P. t. magnâ, crassâ, opacâ, stramineâ, striis obliquis creberrimis parallelis eleganter insculptâ, infrâ cylindraceâ, suprâ tereti; spirâ longissimâ, decollatâ; anf. perditis 15! anf. reliquis 10; labro lato, crasso, continuo, albo, anf. penultimo appresso. Long. partis

amissæ .6 poll.; long. post decoll. 1.18 poll.; tot. 1.78 poll.; lat. .37 poll. Species nobilis, notabilis!

Is a synonym of *Cylindrella binneyana* Pfr. (1850, *ibid.*, no. 8: 129).

**nobilis Adams Helicina**

Plate 77, figs. 11, 12

1850, Ann. Lyc. Nat. Hist. New York, 5: 49; 1851, Cont. to Conch. no. 8: 133.

Shell depressed globose conic, thick and solid: white beneath and at the end of the last whorl, otherwise rufous or dark brownish red: very smooth, the striæ of growth being very light; sometimes with a few very light spiral striæ: apex obtuse: spire convex conic: whorls nearly four and one-half, subplanulate, with a rather deep suture last whorl much depressed or even sinuate between the periphery and suture at its termination: aperture compressed above, expanded laterally: lip rather thick, moderately reflected along the middle only; with a notch like that of *H. maxima* Sowb.

Mean divergence  $130^{\circ}$ ; greatest breadth .9 inch; least breadth .73 inch; height .55 inch.

This species differs from *H. maxima* in the flattening of the whorls, which renders the spire conic; in the compression of the aperture from above, and the slight reflection of the lip; it is also more solid and less convex beneath.

**nobilis Adams Helix**

Type not located

1850, Cont. to Conch. no. 7: 106.

Shell transversely ovate-orbicular, moderately and irregularly convex above, regularly and very convex beneath: above reddish or blackish brown, with paler spaces; beneath with a broad belt of blackish brown next below the periphery, within which the shell is of a bright yellowish green; with the lip purple, irregularly spotted with white: rather feebly granulated, smooth near the apex and umbilical region, with the lower part of the whorls, for the most part, undulated by short oblique impressions: spire moderately elevated: whorls a little more than five, subplanulate, with a lightly impressed suture; last whorl with an acute periphery, above which it is concave in its last half, and below which it is slightly

concave in its first half: aperture subtriangular, with the lower outline much curved: with one moderately developed tooth below near the right side: labrum well reflected, moderately thickened: umbilicus wanting. See Lister, 82, 83.

Height 1.12 inch; greatest breadth 2.42 inch; least breadth 2.07 inch.

Variety of *patina* (1851, *ibid.*, no. 9: 185).

**nobilis** *Adams Trochatella pulchella* Plate 75, figs. 6, 7

1851, Cont. to Conch. no. 9: 159.

New Hope, Westmoreland.

Another variety occurs at the opposite extremity of the island, at New Hope in Westmoreland, which is very large, and has the last whorl well rounded over the periphery, without any keel: it has no sculpture except the impressed spiral lines on the spire and on the upper part of the last whorl. The lip is less expanded than in the type of the species. It may be designated by the name of NOBILIS.

**nodulosum** *Adams Cyclostoma* Type not located

1850, Cont. to Conch. no. 6: 91.

Shell elongate, ovate-conic: purple at the apex and behind the lip, with a few indistinct transverse spots of purplish brown and an anterior spiral band of the same; with the lip white: with very closely set strong transverse raised lines, which are decussated by numerous spiral lines, with the intersections nodulous: spire rather long, with the outlines scarcely curvilinear: apex truncate, with the loss of — whorls: four whorls remaining, with a deep suture; last whorl not detached from the penult whorl: aperture ovate-orbicular: inner peritreme scarcely produced, but reflected: outer peritreme moderately expanded, well reflected, thick and strong: umbilicus very narrow, but extending through the truncate apex.

Mean divergence about  $35^{\circ}$ ; height .53 inch; greatest breadth .34 inch; least breadth .25 inch.

Synonym of *granosum* (1851, *ibid.*, no. 8: 140).



**obesa Adams Pupa**

Plate 82, fig. 14

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

[Near Port Henderson].

*P. t. tenui*, diaphanâ, pallidè fuscescente, subfusiformi, striis obliquis costiformibus ornatâ, suprâ concavé et breviter tereti, decollatâ; anf. 6 vel 7 perditis; anf. 7 vel 8 reliquis; labro tenui, albo, reflexo, continuo, ab anf. penultimo disjuncto. Long. partis amissæ .13 poll.; long. post decoll. .57 poll.; lat. 235 poll.

Variety of *Cylindrella brevis* Pfr. (1851, Cont. to Conch. no. 9: 183.

**octonoides, Adams Bulimus**

Plate 81, fig. 13

1845, Proc. Boston Soc. Nat. Hist. 2: 12.

[Dublin Castle near Graywycke].

*B. t. parvâ*, albidâ, elongatâ; anf. 7, perconvexis; labro tenui; columellâ rectâ; *B. octono* simili, speciei quam *Gen. Achatina* habeat. Div. 22°; spiræ long. 22 poll.; long. tot. .31 poll.; lat. .1 poll.

**opalina Adams Helix**

Plate 78, figs. 11–12

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[W part of St. Mary's].

*H. t. parvâ*, perdepressâ, suprâ convexâ, diaphanâ, nitidâ, pallidè corneâ, exilissimè striatâ, infrâ indentatâ, haud umbilicatâ; anf. 5, suprâ a lineâ subsuturali impressis; aperturâ infrâ carinâ candidâ intus decurrente calloque umbilicari candidâ — instructâ; labro tenui. Div. 145°; alt. .135 poll.; lat. max. .3 poll.; lat. min. .26 poll.

Is *Proserpina* (1851, Cont. to Conch, no. 9: 186).

**osculans Adams Achatina**

Type not located

1850, Cont. to Conch. no. 7: 104.

Shell conoidal, but very slender; dull horn color; with about fourteen transverse oblique rather prominent lamelloid ridges, which are somewhat arcuated with the convexity forwards: apex rather obtuse: spire with the outlines rectilinear, except near the apex: whorls nine, flattened or concave along the middle, with a well impressed suture: aperture ovate, very narrow and acute above, retreating much below on both sides: columella subspiral, distinctly truncated in a young shell, indistinctly so in an old one, with the edge somewhat dilated, so as to resemble a *Spiraxis*.

Mean divergence about 9°; length of spire .28 inch; total length .35 inch; breadth .06 inch.

**osculans Adams Helix**

Plate 74, figs. 9, 11

1850, Cont. to Conch. no. 7: 107.

Shell very similar to that of *H. arboreoides*; but the whorls increase rather less rapidly, so that the outer whorl and the aperture are not so wide as in that species; the lower side of the last whorl is thicker, and within is furnished with a stout revolving lamella a little exterior to the middle of this side. This species connects the groups of Jamaica Helices, which are represented by *H. arboreoides* and *H. epistylum*.

Height .21 inch; greatest breadth .44 inch; least breadth .41 inch.

**pallescens Adams Cyclostoma**

Plate 54, figs. 7, 8

1850, Ann. Lyc. Nat. Hist. New York, 5: 60; 1851, Cont. to Conch. no. 8: 144. [Name on page 143.]

[NE corner of St. Elizabeth, Ch.].

Shell with the spire brownish red, and the last whorl white; with a brown epidermis: with the transverse striae fine and regular on the spire, and very irregular on the last whorl; with fine wrinkles commencing above near the end of the penult whorl; last whorl very coarsely and irregularly wrinkled above, nearly or quite smooth beneath; the umbilical keel is obsolete: spire depressed: whorls nearly five; last whorl flattened above; with the suture moderately impressed: aperture orbicular, slightly effuse and pointed above; lip scarcely sinuate above, moderately advanced on the right side: umbilicus about two-thirds as wide as the aperture. Operculum with a much elevated spiral lamella, the whorls of which, six or seven in number, are saucer-shaped; that is, reflected, with the inner surface concave.

Mean divergence about  $145^{\circ}$ ; height .67 inch; greatest breadth 1.15 inch; least breadth .91 inch.

**pallescens Adams Helix anomala**

Plate 67, figs. 8-10; Plate 68, fig. 1

1851 (April), Cont. to Conch. no. 9: 171; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 95.

*Helix anomala*, var. **PALLESCENS**, is horn colored, sometimes with a reddish brown tinge, without a white line on the periphery. The umbilicus is somewhat narrower,

and the shell is higher in the last whorl. It inhabits Accompong Town, in the back part of St. Elizabeth.

**palliata Adams Helicina**

Plate 75, figs. 8, 9

1849, Cont. to Conch. no. 1: 13.

Species similar to *H. Brownii*, Gray, but the shell is larger, thicker, less globose, with the incision as deep but much narrower and linear; the produced columella is grooved with a broad shallow furrow, while in *H. Brownii* it has a deeply impressed line.

The characters of the incision and produced columella in this group of *Helicinae* appear to be very constant. It is chiefly for this reason that I regard this as a good species. The form and size are intermediate between *H. maxima* and *H. Brownii*.

Mean divergence  $110^{\circ}$ ; length .43 inch; greatest breadth .69 inch; least breadth .55 inch.

**pallidus Adams Bulimus**

Plate 81, fig. 16

1854, Proc. Boston Soc. Nat. Hist. 2: 12.

B. t. parvâ, tenui, diaphanâ, corneâ, elongatâ; anf. 5, convexis; labro tenui; columellâ rectâ. Div.  $35^{\circ}$ ; spiræ long. .16 poll.; long. tot. .27 poll.; lat. .13 poll.

[This is not the type-lot referred to by Pilsbry (1907) p. 294, but it has the Adams label. A syntype specimen was illustrated by Pilsbry 1907, pl. 43, figs. 43-47.]

**papyraceum Adams Cyclostoma**

Plate 57, fig. 7

1850, Cont. to Conch. no. 6: 92.

[Yallah's Hill].

Shell much elongated, ovate-conic: with dark brown irregular transverse bands, which are deeply and sharply undulated on the posterior side, and which are sometimes contracted into waving lines, on a ground of pale brown: thin; elegantly sculptured with very regular crowded striæ; with the intervening ridges crossed by many microscopic spiral impressed lines; with a crowded sutural series of sharp crenulations: spire long, with the outlines moderately curvilinear: apex truncate with the loss of — whorls: a little more than five whorls remaining, with a moderately impressed suture: aperture ovate, rather large and spreading, a little modified by the penult whorl: peritreme single, scarcely reflected to the

plane of the aperture, on the left side appressed to the penult whorl: umbilicus small, with strong spiral striæ. This beautiful species receives the appropriate name suggested by Mr. Chitty.

Mean divergence  $32^{\circ}$ ; length .82 inch; greatest breadth .45 inch; least breadth .33 inch.

**parva Adams Geomelania gracilis**

Plate 81, fig. 10

1850, Cont. to Conch. no. 6: 95.

Var. *parva* is but .35 inch long, and has about thirty-six ribs.

**patina Adams Helix**

Plate 71, figs. 1-3

1849, Cont. to Conch. no. 2: 29.

HELIX PATINA may be a variety of *H. acutissima*, Lam., but it is concave on both sides of the periphery, like *H. soror*, while Lamarck's shell is always convex below and usually also above the periphery: the surface of *H. patina* is smooth throughout, except a slight granulation near the end of the last whorl, and is rather irregularly impressed with scattered lines, which are mostly perpendicular to the striæ of growth.

Greatest breadth 2.2 inches; least breadth 2 inches; height 1 inch.

**pauperatum Adams Cyclostoma**

Plate 57, fig. 4

1849, Cont. to Conch. no. 1: 13.

Shell very elongate and slender, conic; color — ?; very coarsely striated transversely, not crenulated in the suture, spiral lines wanting; spire with nearly rectilinear outlines; apex truncate with the loss of three (?) whorls; five whorls remaining, with a moderately impressed suture; aperture ovate-orbicular; inner peritreme on the right side less elevated above the outer one, which is moderately expanded, concave, sharp, produced into an angle and inflected at each extremity of the left side; umbilicus very small, concealed by the lip.

Mean divergence  $28^{\circ}$ ; length .58 inch; greatest breadth .26 inch; least breadth .2 inch.

**pauperata Adams Geomelania**

Type not located

1850, Cont. to Conch. no. 6: 97.

Shell elongate conic: whitish: with, on each whorl, about twenty-five rather wide obtuse transverse ribs:

spire with rectilinear outlines: apex truncate with loss of — whorls: whorls remaining seven to eight, quite convex, with a well impressed suture: aperture ovate, slightly effuse: linguiform part of the labrum but slightly produced. This species resembles *G. pygmaea* and *G. Beardsleana*.

Mean divergence about  $11^{\circ}$ ; length .21 inch; breadth .05 inch.

**pauperculus Adams Bulimus**

Plate 90, fig. 13

1849, Cont. to Conch. no. 2: 27.

Shell much elongated, regularly tapering to the summit; white, with a thin horn colored epidermis; with numerous broad lightly impressed arcuate transverse striae; spire with rectilinear outlines; apex rather obtuse; whorls seven, rather convex, with a well impressed suture; aperture long ovate, quite acute above; labrum thin and sharp; columella well thickened.

Mean divergence  $18^{\circ}$ ; length .25 inch; breadth .25 inch; length of aperture .075 inch.

[Lectotype figured by Pilsbry, 1907a, pl. 4, fig. 46. Cf. Pilsbry (*loc. cit.*) for discussion of type-lot.]

**pellucens Adams Achatina**

Plate 80, fig. 11

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

A. t. parvâ, nitidâ, gracili, corneâ, striis exilissimis longitudinalibus, suprâ crebris, infrâ distantibus — ornatâ; anf. 7; labro tenui, infrâ retracto; columellâ arcuatâ. Div.  $14^{\circ}$ ; spirâ long. .19 poll.; long. tot. .27 poll.; lat. .07 poll.

[Holotype figured by Pilsbry, 1908, pl. 18, figs. 20, 21.]

**pellucida Adams Helix**

Type not located

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

H. t. parvâ, pallidè corneâ, diaphanâ, exilissimè et creberrimè striatâ; spirâ latè conicâ; anf. 6, perconvexis; ultimo magno, rotundato; aperturâ suborbiculari, ab anf. penultimo valdè invasâ; lobro tenuissimo; umbilico parvo. Div.  $110^{\circ}$ ; alt. .2 poll.; lat. max. .28 poll.; lat. min. .25 poll.

**peracutissima Adams Helix**

Plate 71, figs. 4-6

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

H. t. magnâ, imperforatâ, lenticulari, subtenui, fuscâ, exilè sagrinatâ; anf. 5; inferis suprâ concavis; ultimo medio in angulum acutissimum lamelliformem expanso, subtùs convexo; aperturâ perdepressâ, infrâ *H. sinuatae* Müll. similiter 4-dentatâ; labro medio acutè angulato. Div.  $140^{\circ}$ ; alt. .6 poll.; lat. max. 1.6 poll.; lat. min. 1.43 poll.

**peraffinis Adams Helix**

Plate 84, figs. 7, 8

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[Galina Pt.].

Præcedentis [*pellucida*] var.? sed t. spirâ depressâ, convexâ; umbilico multo latiore. Div. 140°; alt. .17 poll.; lat. max. .3 poll.; lat. min. .25 poll.

**perdepressa Adams Helix**

Plate 91, figs. 15, 16, 18

1849, Cont. to Conch. no. 3: 36.

Shell discoidal; whitish or pale horn colored; with very fine transverse striæ; spire concave or plane, with the last whorl often descending below the plane of the preceding; apex always depressed into the plane of the spire; whorls five, angular, on the upper side sloping a little below the plane of the spire, with a well impressed suture; aperture elliptical, a little modified by the penult whorl; lip thin and sharp; umbilicus as wide as the last whorl, regularly concave and exhibiting all the whorls. The following are the dimensions of a large specimen.

Greatest breadth .25 inch; least breadth .215 inch; height .105 inch.

**perpallidum Adams Cyclostoma**

Plate 54, figs. 10, 11

1851 (April), Cont. to Conch. no. 9: 157; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 81.

Shell white, reddish on the upper whorls, with a pale greenish brown epidermis: transverse striæ very fine, wrinkled; with minute wrinkles nearly covering the last whorl; umbilical keel wanting: spire moderately elevated: whorls five; last whorl flattened beneath, making the periphery subangular; with the suture well impressed: aperture suborbicular; effuse, pointed, and much advanced above; lip thick: umbilicus half as wide as the aperture. Operculum unknown.

Mean divergence about 130°; height .45 inch; greatest breadth .7 inch; least breadth .58 inch. (p. 148.)

This name is given to "No. 20," described on page 148. Having seen a considerable number of specimens, all of which very exactly coincide in their characters, I can no longer hesitate to regard it as a good species, although the operculum is yet unknown.

[Syntype specimen figured by Torre et al., 1942, pl. 18, figs. 4-6.]

**perplexa Adams Achatina**

Plate 80, fig. 10

1850, Cont. to Conch. no. 5: 84.

Shell ovate-fusiform, much elongated: almost transparent, pale yellowish brown, with transverse moderately curved lines of dark brown, of which the last colors the labrum, three to four on each whorl, wanting on the upper whorls, and scarcely perceptible at and above the middle of the spire: with fine not crowded transverse striæ; lines, which indicate the varices that are coincident with the brown stripes, scarcely distinguishable from the striæ: apex subacute, with nearly one and one-half smooth whorls: spire much elongated, with the outlines moderately curvilinear: whorls about six and one-half, moderately convex, with a well impressed suture: aperture long, ovate, quite narrow and acute above: columella a little twisted scarcely truncate. This species closely resembles *A. propinqua*, but the striæ are finer and more distant, and the outlines of the spire are more curvilinear. It attains about one-half of the size of that shell.

Mean divergence about  $21^{\circ}$ ; length .33 inch; breadth .09 inch; length of aperture .12 inch.

[Lectotype figured by Pilsbry, 1907a, pl. 4, figs. 31, 42.]

**petitianum Adams Stoaostoma**

Plate 87, figs. 10-12

1850, Ann. Lyc. Nat. Hist. New York, 5: 67; 1851, Cont. to Conch. no. 8: 151.

Shell between globose and discoidal: dingy white: with eight or ten raised slender spiral lines, of which three or four are visible on the spire, and as many others which are more minute: spire moderately elevated, convex: whorls three and one-half, moderately convex, with a lightly impressed suture; last whorl well rounded: aperture much contracted behind the labrum, which is but moderately produced, and is double, with the outer margin scarcely modified by the larger spiral lines; labium moderately detached from the penult whorl: umbilicus rather small, with the spiral lamella but moderately developed.

Mean divergence about  $125^{\circ}$ ; height .04 inch; greatest breadth .06 inch; least breadth .05 inch.

**pfeifferianum** *Adams Stoastoma*

Plate 89, figs. 10-12

1849, Mon. *Stoastoma*, p. 8.

[Manchester back woods. Ch.].

*S. testâ subglobosâ, pallidè cerino-fuscâ, striis profundis plurimis eleganter insculptâ; spirâ brevi, conicâ, acutâ; anfractibus 5, haud multum convexis; aperturâ haud campanulatâ; labro multo producto, nec denticulato, nec pectinato; labio haud multo soluto; umbilico lamellâ partim oblecto.*

Form — subglobose;

color — pale brownish wax-color;

sculpture — deep crowded regular spiral striæ, uniform over all the shell except the nuclear apex;

apex vitreous;

spire moderately and convexly elevated;

whorls 5, slightly convex, with a well impressed suture; last whorl elegantly rounded;

aperture quite exactly semicircular, not campanulate;

labrum well produced, rather abruptly produced above, with a smooth even margin;

labium rather thick, slightly detached from the penult whorl, in the lower part a little curved to the right;

umbilical region concave, covered with a deposit extending from the aperture, partly concealed by a spiral lamella, which is continuous with the lower extremity of the labrum.

Mean divergence  $120^{\circ}$ ; length .075 inch; greatest breadth .115 inch; least breadth .085 inch.

**philippianum** *Adams Stoastoma*

Plate 87, figs. 7-9

1851 (April), Cont. to Conch. no. 9: 158; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 82.

Shell subdiscoidal, convex above: pale horn color, sub-transparent: surface smooth and shining: spire moderately and convexly elevated: whorls three and one-half, slightly convex, with a moderately impressed suture; last whorl regularly rounded over the periphery, very slightly detached from the penult whorl near the aperture: aperture slightly campanulate: labrum slightly produced beyond the labium, not scalloped: labium in its upper half a little detached from the penult whorl, with the lower half extending below the penult whorl: umbilicus of moderate size, with the spiral lamella exces-



sively developed and usually soldered by its exterior edge to the last whorl, forming over the umbilicus a large arch, which has an opening rather larger than the aperture of the shell. Inhabits Ackendown in Westmoreland.

Mean divergence about  $130^{\circ}$ ; height .055 inch; least breadth .09 inch; greatest breadth .075 inch.

**phillipsii Adams Achatina**

Plate 79, fig. 10

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

A. t. tenui, diaphanâ, elongatâ, subfusiformi, pallidè fuscescente, lineis atro-fuscis paucis distantibus longitudinalibus — ornatâ; anf. 7, suprâ a lineâ infra-suturali impressis, striatis, striis distantibus; labro tenui, infrâ retracto; columellâ haud multum arcuatâ. Div.  $20^{\circ}$ ; spiræ long. .5 poll.; long. tot. .73 poll.; lat. .13 poll.

[Syntype specimen figured by Pilsbry, 1907a, pl. 11, fig. 63.]

**picturata Adams Helix**

Plate 83, figs. 1-3

1849, Cont. to Conch. no 2: 30

Species like *H. sinuata*, Mull., but the shell is usually smaller, the whorls are always much shorter, the spire more depressed, and the shell less convex beneath: it is remarkable for having portions of the epidermis hydrophanous, which are mostly in zigzag or radiating pale brown stripes: the aperture is much more expanded laterally than *H. sinuata*: umbilicus small, partly covered by the reflected lip.

Greatest breadth .9 inch; least breadth .73 inch; height .38 inch.

Variety *a*, without umbilicus and the spire rather more elevated.

**pila Adams Helix**

Plate 65, figs. 10, 11

1849, Cont. to Conch. no. 2: 31.

Shell very globular; white, translucent; with excessively fine striæ of growth and the microscopic spiral lines; spire with very convex outlines; apex very obtuse; whorls more than six, quite convex, with a well impressed suture; aperture lunate, except as interrupted by the intrusion obliquely of a large uneven abruptly terminating columella; lip very thin and sharp; within, nearly half way up the outer side, is a high lamella,

which after entering half the length of the last whorl suddenly diminishes to a line; umbilicus wanting.

Greatest breadth .6 inch; height .53 inch.

*pisum Adams Cyclostoma*

Plate 55, fig. 9

1849, Cont. to Conch. no. 1: 9.

Shell short, ovate conic; dark slate colored, with a red lip; with closely set strong transverse raised lines decussated by very faint spiral lines, which are obsolete on the upper whorls; spire with quite convex outlines; apex truncate with the loss of two and one-half whorls; three very convex whorls remaining, with a very deep suture; aperture circular; inner peritreme a little produced and reflected; outer peritreme much expanded, a little concave and faintly striate; umbilicus rather wide, extending through.

Divergence about  $56^{\circ}$ ; length .33 inch; greatest breadth .315 inch; least breadth .215 inch.

*pisum Adams Proserpina*

Plate 71, figs. 10, 11

1850, Cont. to Conch. no. 7: 108.

Shell globular: pale yellow and whitish: smooth and shining: apex very obtuse: spire well elevated, with very convex outlines: whorls five, quite convex, with the suture not impressed: last whorl very large and high: aperture longitudinally lunate: labrum sharp, moderately thickened within, without teeth or lamellae: columella moderately produced nearly in the direction of the axis of the shell, with one sharp prominent nearly transverse plait: labium with a very prominent and sharp revolving plait near the columella.

Mean divergence about  $110^{\circ}$ ; length of aperture .15 inch; total length .21 inch; greatest breadth .24 inch; least breadth .2 inch.

For this elegant species of *Proserpina*, and several of the above species, I am indebted to my friend, Rev. F. R. Holland, who has collected them in person; and, as on previous occasions, has liberally shared with me the results of his labors.

*pisum Adams Stoastoma*

Plate 88, figs. 16, 17

1849, Mon. *Stoastoma*, p. 11.

[Manchester, generally, and near Accompong Town, St. Elizabeth. Ch.].

S. testâ subglobosâ, pallidè sulphureâ, striis exilibus spiralibus paucis ornatâ; spirâ conicâ, acutâ; anfractibus 5, haud multum convexis; aperturâ subcampanulatâ; labro longè producto, sparsim et exilè denticulato, infrâ auriculato; labio haud multum soluto; umbilico angusto, profundo; ——— animali glauco.

Form — subglobose;

color — pale yellow;

sculpture — a few lightly impressed spiral striæ, which become obsolete on the back of the last whorl;

spire regularly conic, moderately elevated;

whorls 5, slightly convex, with a slightly impressed suture; last whorl globose;

aperture subcampanulate, almost exactly semicircular;

labrum much produced beyond the labium, very abruptly produced above, with a few sharp projecting points along the margin, auriculate below;

labium rather thick, slightly detached from the penult whorl, in the lower part a little curved to the right;

umbilicus small, deep.

Mean divergence of spire  $110^{\circ}$ ; length .14 inch; greatest breadth .185 inch; least breadth .16 inch. Length of aperture .09 inch; breadth of do. .066 inch.

The operculum has a rather sparsely lamelliferous external surface: the inner surface is shining, opaque white.

**planulata Adams** *Proserpina nitida* Plate 85, figs. 3, 4

1851 (April), Cont. to Conch. no. 9: 174; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 98.

*Proserpina nitida* var. **PLANULATA** is distinguished by being much flattened above.

**pretiosa Adams** *Helix bainbridgei* Plate 71, figs. 7–9

1851 (April), Cont. to Conch. no. 9: 171; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 95.

Var. **PRETIOSA**, differs from the ordinary type of the species in being white, with an exceedingly thin greenish epidermis on the last whorl; the lip is of a very pure snow white color; and the last whorl is larger and higher.

Raised to full species (1851, Cont. to Conch. no. 10: 204).

**princeps Adams** *Cylindrella*

Plate 86, fig. 19

1851 (April), Cont. to Conch. no. 9: 167; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 91.

Shell like *C. Dunkeri*, but differing in the following characters: it is much larger; is of a reddish brown or horn color; the striæ are much finer, being nearly microscopic; the whorls are flat: aperture elliptical and angulated at the lower extremity; lip quite thick: it loses about eight whorls by truncation and has twelve remaining. Inhabits Swift R. head, St. George. Length .98 inch; breadth .15 inch.

**procera Adams** *Achatina*

Plate 79, fig. 11

1849, Cont. to Conch. no. 2: 24.

Shell conic, much elongated; white, more or less tinged with brown, with rather broad dark brown somewhat oblique stripes, which are waved on the posterior margin, interrupted at the middle of the last whorl, and of which there are four or five on each whorl, except on the first three or four which are colorless; varicose coincidently with the brown stripes on the last whorl, like *A. leucozonias* with closely set very coarse transverse striæ or ribs; spire with the outlines nearly rectilinear; apex rather obtuse; whorls about ten, rather convex, with a slightly channeled suture; aperture rather narrow, quite acute above; labrum rather sharp, produced to an extraordinary degree in the middle, and then abruptly retreating in a deep well rounded sinus, which reaches to the twisted and much arcuated columella.

Mean divergence  $27^{\circ}$ ; length 1.375 inch; breadth .4 inch; length of aperture .52 inch. Of another individual, mean divergence  $31^{\circ}$ ; length 1.08 inch; breadth .395 inch; length of aperture .44 inch.

[Lectotype and syntypes figured by Pilsbry, 1907a, pl. 7, figs. 3, 4.]

**procerus Adams** *Bulimus*

Type not located

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

[W part of St. Mary's].

B. t. parva, nitida, tenui, diaphana, flavido-fuscâ, perelongatâ; anf. 8 ad 10, haud multum convexus; labro tenui; columellâ tortâ. Div.  $18^{\circ}$  ad  $14^{\circ}$ ; spiræ long. .5 poll.; long. tot. .63 poll.; lat. .14 poll.

**procera Adams Cylindrella**

Plate 91, fig. 13

1850, Cont. to Conch. no. 7: 102.

[Clarendon].

Shell cylindric in the lower three-fifths, moderately tapering above: reddish or yellowish brown: with rather fine regular quite oblique striæ: spire very broadly truncate, with the loss of — whorls: whorls remaining ten to eleven, moderately convex, with a well impressed suture; last whorl moderately produced, with a very prominent spiral carina anteriorly: aperture not large, sub-orbicular, subrectilinear in the left and upper sides, with a slight sinus between the lower and right sides: lip well reflected, moderately thickened and expanded. This is a slender species of the group, of which *C. cylindrus Chem.* is typical.

Length 1.15 inch; breadth .3 inch.

[Syntypes figured by Pilsbry, 1902, pl. 29, figs. 21, 22.]

**procera Adams Geomelania**

Plate 90, fig. 4

1850, Cont. to Conch. no. 6: 95.

Shell slender, conic-cylindrical: whitish: with, on each whorl, about thirty stout prominent, acute-edged transverse ribs, which are continued nearly to the anterior margin of the aperture; with very numerous microscopic lightly impressed spiral striæ in the intercostal spaces: spire with rectilinear outlines: apex truncate with the loss of seven or eight whorls; whorls remaining seven to seven and one-half, moderately convex, with a well impressed suture: aperture ovate, widely and deeply effuse: labrum well expanded, reflected, and thickened; with the linguiform part at the anterior extremity well produced obliquely and downwards, rather narrow, but not acute: labium well thickened, separated slightly from the penult whorl.

Mean divergence about  $10^{\circ}$ ; length .63 inch; greatest breadth .15 inch; least breadth .13 inch.

**producta Adams Cylindrella lata**

Plate 86, fig. 15

1851 (April), Cont. to Conch. no. 9: 161; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 85.

*Cylindrella lata* often occurs with a much elongate sub-conic form. This variety may be designated by the name

PRODUCTA. A specimen is 1.23 inch long and .34 inch broad.

**propenuda Adams Helix**

Plate 66, figs. 3-4

1850, Cont. to Conch. no. 5: 79.

Shell like *H. sinuata*, but the color is very pale, almost white except on the upper whorls: the aperture more contracted; the exterior furrows are very short, and the right pair of teeth a little joined at base: the epidermis consists of small distant obliquely transverse thin brownish green patches: umbilicus wanting.

Greatest breadth .885 inch; least breadth .765 inch; height .5 inch.

Var. of *sinuata* Mull. (1851, *ibid.*, no. 9: 185).

**propinqua Adams Achatina**

Plate 79, fig. 13

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

Præcedenti [*phillipsii*] affinis, forsan var.; sed t. lineis longitudinalibus crebris instructâ, sine lineâ infra-suturali; anf. 6; columellâ rectâ. Div. 18° spiræ long. .32 poll.; long. tot. .48 poll.; lat. .13 poll.

[Lectotype specimen figured by Pilsbry 1907a, pl. 10, fig. 47.]

**proxima Adams Achatina**

Plate 80, fig. 3

1851 (April), Cont. to Conch. no. 9: 167; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 91.

Shell conic but slender: very pale brown or horn color; with dark brown transverse stripes, about three on each whorl, less distinct on the upper whorls: with fine regular transverse small elevated lamellæ: apex moderately obtuse, smooth on the nuclear whorls: spire long, with the outlines nearly rectilinear: whorls eight, planulate, abruptly shouldered above, with a rather deep suture: aperture small, ovate: labrum thin and sharp: columella nearly straight. This shell resembles *A. Blandiana*. Its divergence in the upper whorls is less than in that shell, but its mean divergence is greater.

Mean divergence about 18°; length .385 inch; breadth .095 inch; length of aperture .11 inch. Inhabits near Swift River head, Portland.

[Syntype specimen figured by Pilsbry, 1907a, pl. 10, figs. 50-52.]

**proximum Adams Cyclostoma**

Plate 57, fig. 9

1849, Cont. to Conch. no. 1: 8.

Species like *C. fascia*, Gray, but the shell is much more coarsely decussated, the transverse lines being stronger and the spiral lines less numerous; the lip is less expanded and more solid, and the whole shell is thicker and smaller.

Perhaps var. of *fascia* Gray (1851, *ibid.*, no. 9: 155).

**puella Adams Achatina**

Plate 80, fig. 2

1850, Cont. to Conch. no. 5: 83.

Shell ovate fusiform, much elongated: subtransparent, pale brownish yellow, with brown transverse stripes, which are very narrow except at their summits, where they are much dilated and are very deeply colored; there are on each whorl four or five of these stripes except near the apex: varicose coincidently with the brown stripes; with rather fine regular transverse striæ: apex rather obtuse, with rather more than one whorl smooth: spire rather long, with the outlines a little curvilinear: whorls eight, moderately convex, with a well impressed suture: aperture rather long ovate, narrow and very acute above: labrum sharp and thin: columella nearly straight, but little truncated.

Mean divergence about  $19^{\circ}$ ; length .53 inch; breadth .125 inch; length of aperture .17 inch.

[Lectotype, here selected, was figured by Pilsbry, 1907a, pl. 10, figs. 53, 54 as cotypes.]

**pulchra Adams Proserpina**

Plate 85, figs. 5, 6

1850, Cont. to Conch. no. 5: 81.

Shell similar to *P. nitida*, but much smaller and less discoidal, the spire being more elevated and the last whorl higher: the color of the upper whorls, (the last and usually a small part only of the penult whorl being excepted), varies from a deep crimson to a bright orange red, with an opaque white line along the suture. In all other characters this shell so closely resembles *P. nitida*, that I have long hesitated whether I should propose it as a distinct species. The peculiarity of form appears to be absolutely constant in the individuals (about 30), that I

have seen: that of color fails partially only in a very few, which appear to have been bleached by exposure.

Greatest breadth .2 inch; least breadth .18 inch; height .12 inch.

**pulchra Adams** *Trochatella josephinae* Plate 75, fig. 5

1850, Ann. Lyc. Nat. Hist. New York, 5: 52; 1851, Cont. to Conch. no. 8: 136.

A variety of *Trochatella Josephinae*, from the western part of the island, presents a type quite distinct from that which served for the description of the species, and which inhabit the eastern part. The spiral ridges are less conspicuous, and are more or less interrupted by various irregularities of the surface. The acute periphery is furnished with very prominent vaulted compressed scales, and is of a red color. The inferior surface is of a lemon yellow color, and its spiral striæ are rather indistinct. The lower part of the lip is quite thick. This type may be designated by the name of PULCHRA. Its mean divergence is  $100^{\circ}$ ; height .29 inch; greatest breadth .52 inch; least breadth .44 inch.

**pulchrior Adams** *Helix* Plate 73, figs. 9, 10

1851 (April), Cont. to Conch. no. 9: 172; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 96.

Shell subconic, rather thin: of a very light burnt-sienna color, sometimes with a tinge of cream color, on which are more or less numerous ill defined unequal transverse lines of a rich dark burnt-sienna; often with a tinge of ash color on the upper whorls; with a spiral rather dark line of the burnt-sienna a little below the suture, above which the transverse dark lines rarely extend; with another very dark spiral stripe of the same color along the suture and on the periphery of the last whorl; with a well defined large very dark circular spot of the same color on the umbilical region, which is sometimes margined by a pale circle, exterior to which is a line of rather dark burnt-sienna; sometimes with a fine spiral line of the same color on each side of the periphery: surface moderately shining, with fine close striæ of growth: spire with the outlines moderately curvilinear: whorls five, a little convex; last whorl subangular on the



periphery: aperture wider than long: lip thin and rather sharp, slightly reflected: umbilicus wanting. This most richly colored of the Jamaica Helices is allied to *H. subconica*. Inhabits Portland.

Greatest breadth .65 inch; least breadth .57 inch; height .5 inch.

A variety has the dark umbilical spot margined with a circle of bright cream color, with another stripe of the same next below the dark periphery. It inhabits St. Thomas-in-the-East.

**pulchrior "Adams" Pfeiffer Adamsiella**

1858 Mon. Pneumon. Viv., supp. 1, p. 108.

[Error for *pulchrius* Adams 1845.]

**pulchrius Adams Cyclostoma**

Plate 86, fig. 16

1845, Proc. Boston Soc. Nat. Hist. 2: 11.

[Galina Pt.].

C. t. fasciâ latâ, rubro-fuscâ, ornatâ, decollatâ; anf.  $2\frac{1}{2}$  perditis; anf. reliquis 4, exilissimè regulariter et elegantissimè decussatis; labro crasso, rotundato, albo; umbilico perangusto, profundo; operculo tenui. Div.  $48^\circ$ ; alt. .56 poll.; lat. max. .38 poll.; lat. min. .3 poll.

Synonym of *C. binneyanum* Pfr. 1851, Cont. to Conch. no. 9: 129.

**pupaeformis Adams Cyliindrella**

Plate 62, fig. 7

1850, Cont. to Conch. no. 7: 102.

Shell subcylindric: pale horn color, or whitish: with excessively fine regular quite oblique striæ; spire very broadly truncate, with the loss of — whorls: whorls remaining six to six and one-half, slightly convex, with a distinct suture; last whorl moderately produced from the penult whorl, subangulated anteriorly: aperture very large, a little angulated by the angle of the last whorl, orbicular: lip narrow, moderately thickened, well reflected.

Length .46 inch; breadth .13 inch.

**pusilla Adams Cyliindrella**

Plate 61, fig. 20

1850, Cont. to Conch. no. 7: 102.

Shell fusiform-cylindric: pale horn color, subtranslucent: with oblique sinuous, rather inequidistant fine elevated transverse lines: spire truncate, with the loss of — whorls: whorls remaining about seven, moderately

convex, with a well impressed suture; last whorl smaller than the penult whorl, from which it is not produced, with a sharp spiral keel very near the left side of the aperture: aperture very large, very oblique: lip extremely narrow, slightly thickened, well reflected. This species belong to the group, of which *C. Dunkeri* is a type.

Length .23 inch; breadth .06 inch.

***pusilla Adams Helicina***

Plate 86, figs. 7, 8

1850, Cont. to Conch. no. 7: 101.

Shell depressed globular: horn color for brownish (?) : with excessively fine striæ of growth: apex subacute: spire moderately elevated, with the outlines curvilinear: whorls more than four, a little convex, with a distinct suture: aperture rather large, well rounded in the right side, somewhat sinuate in the left side; labrum thin, moderately dilated, well reflected, with a deep curved incision, similar to that of *H. palliata*, and next below the columella, the end of which is sickle-shaped. This species is much less discoidal than *H. macilenta*.

Mean divergence about  $120^{\circ}$ ; height .16 inch; greatest breadth .25 inch; least breadth .2 inch.

***pygmaea Adams Cyllindrella***

Plate 90, fig. 16

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

*C. t. minimâ, conicâ, gracillimâ, regulariter striatâ, striis latis; anf. 7, convexis; aperturâ obliquâ; labro haud latè reflexo. Div.  $10^{\circ}$ ; spiræ long. .195 poll.; long. tot. .35 poll.; lat. .04 poll.*

Is *Geomelania* (1850, Cont. to Conch. no. 6: 89).

***pygmaea Adams Geomelania typica***

Type not located

1850, Cont. to Conch. no. 6: 96.

Var. *pygmaea* is but .3 inch long.

***pyramidata Adams Geomelania***

Plate 91, figs. 5, 6

1851 (April), Cont. to Conch. no. 9: 159; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 83.

Shell elongate conic: whitish: with, on each whorl, about 28 small obtuse ribs, which, on the last whorl, terminate a little below the periphery: spire with rectilinear outlines: apex usually truncate with the loss of two or three whorls: whorls remaining seven or eight, quite convex, with a deep suture: aperture widely ovate,

moderately effuse: labrum rather thin, slightly reflected: linguiform part obtuse, moderately produced laterally at the lower part of the right side: labium a little thickened and reflected.

Mean divergence about  $15^{\circ}$ ; length .32 inch; greatest breadth .11 inch; least breadth .09 inch.

**quinque-fasciatum** *Adams Cyclostoma* Plate 57, fig. 2  
1849, Cont. to Conch, no. 1: 12.

Shell much elongated; whitish with a faint tinge of brown, with — on the upper whorls three, and on the last whorl five spiral series of very dark brown spots which have pale brown shadows, the spots being also in inequidistant transverse lines; with rather distant smooth transverse ridges; spire with scarcely convex outlines; apex truncate with the loss of nearly four whorls; five whorls remaining, with a moderately impressed suture; aperture ovate, subangulated at each end; inner peritreme thickened, white, appressed to the outer one, which is moderately expanded, sinuate, reflected nearly to the plane of the aperture, much expanded and concave above and also below on the left side, wanting opposite the penult whorl; umbilicus very small, nearly concealed by the lip.

Mean divergence  $33^{\circ}$ ; length .77 inch; greatest breadth .39; least breadth .3 inch.

Synonym (?) of *columna* Wood (1851, *ibid.*, no. 9: 180).

**redfieldianum** *Adams Cyclostoma* Plate 58, fig. 6  
1849, Cont. to Conch, no. 1: 10.

Shell ovate-conic; pale blueish gray or dingy white, with a few spiral interrupted lines of dark brown; strongly striated transversely, without spiral striæ; spire with rather convex outlines; apex truncate with the loss of two whorls; three and one-half quite convex whorls remaining, with a deep suture, which has a few strong unequal inequidistant crenulations; aperture large, nearly orbicular; inner peritreme a little produced and reflected; outer peritreme wanting on the upper part of the left side, much expanded on the remaining part of this side, moderately spread on the outer side, concave,

sharp-edged, above often inflected so as to form a cell; umbilicus small.

Mean divergence  $55^{\circ}$ ; length .66 inch; greatest breadth .5 inch; least breadth .4 inch.

**redfieldiana** *Adams Helix*

Type not located

1850, Conto to Conch. no. 7: 107.

Shell transversely ovate, quite convex on both sides: brown, or brownish black, with a paler line on the periphery, with the lip white or purple: with coarse transverse striæ, which, on the upper side of the shell, are frequently interrupted so as to resemble transversely elongated granulations: apex very obtuse: spire very convex: whorls four and one-half, moderately convex, with a distinct but moderately impressed suture: last whorl with an acute or subacute periphery: aperture transversely and somewhat obliquely semielliptical, a little modified by the penult whorl: labrum well expanded, reflected, and thickened, expanding into a broad flattened callus, where it joins the labium at the base of the columella: umbilicus wanting.

Height 1 inch; greatest breadth 1.82 inch; least breadth 1.5 inch.

**redfieldianum** *Adams Stoaostoma*

Plate 87, figs. 4-6

1849, Mon. Stoaostoma, p. 13.

S. testâ subconicâ, pallidè virenti, carinis exilibus et striis exilissimis, — nonnullis spiralibus ornatâ; spirâ elevatâ; anfractibus  $4\frac{1}{2}$ , suturâ impressâ, ultimo anf. subgloboso; aperturâ haud multò campanulatâ; labro haud multò producto, paululum pectinato; labio multò soluto; umbilico sub-lato, carinâ spirali magis elevatâ ornato.

Form — globose-conic;

color — pale yellowish green;

sculpture — a few raised spiral lines, of which about four are visible on the spire, and one or two intermediate excessively minute striæ;

spire regularly and considerably elevated;

whorls  $4\frac{1}{2}$ , moderately convex, with a well impressed suture; last whorl subglobose;

aperture rather larger than a semicircle, a little campanulate;

labrum moderately and above not abruptly produced, slightly scalloped by the spiral carinæ;

labium much detached from the penult whorl, slightly curved;

umbilicus rather wide, with one of the spiral carinæ more prominent and continued into the lower extremity of the labrum.

Mean divergence  $90^{\circ}$ ; length .06 inch; greatest breadth .075 inch; least breadth .065 inch.

**retrorsum** *Adams Cyclostoma*

Plate 56, fig. 12

1850, Cont. to Conch. no. 6: 91.

Shell subovate: horn color, with small irregular flames of brown, and a few small dots of same, which are inequidistant in spiral series: with numerous fine spiral ridges, (of which one or two next the suture are larger), which are decussated by numerous inequidistant moderately elevated lamellae, which are produced at the intersections into triangular points thickened at their bases: spire well lengthened, with the outlines quite curvilinear: apex truncate, with the loss of — whorls: remaining whorls nearly four, very convex, with a deep suture; last whorl not separated from the penult whorl: aperture orbicular: inner peritreme scarcely distinct from the outer, which is thick and wide, finely radiated with impressed lines, and reflected very far behind the plane of the aperture, so as to form a canal behind it: umbilicus very small, but extending through the truncate apex.

Operculum with the spiral lamella dilated and reflected so as to leave only a very narrow channel between its whorls.

A fine perfect specimen, loaned to me by Mr. Cuming, has enabled me to describe the operculum and the color of the shell.

Mean divergence about  $50^{\circ}$ ; length .615 inch; greatest breadth .5 inch; least breadth .33 inch.

**robertsi** *Adams Cylindrella*

Plate 61, fig. 16

1851 (April), Cont. to Conch. no. 9: 160; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 84.

Shell elongate, fusiform, widest a little below the middle: pearl white: with, on each side of the suture, a

series of very short transverse prominent ribs, which abruptly terminate so as to leave a large portion of the middle of the whorls smooth; ribs about fifteen on each whorl; the series below the suture being the larger; both series are continued on the two angles of the produced part of the last whorl, over on the back part of which each rib is united to its opposite by a small lamella: spire with the outlines quite convex except in the upper third: apex truncate with the loss of — whorls: whorls remaining nine or ten, planulate or slightly concave, with a deep suture; last whorl widely disjunct in its last third part from the penult whorl, with an angle on the right and another on the lower side: aperture subangular above and below, more angular on the right: lip rather thin, reflected into the plane of the aperture, moderately expanded.

Length .37 inch; breadth .095 inch.

**rosea Adams Pupa**

1846, Proc. Boston Soc. Nat. Hist. 2: 102.

[18 to 20 mi N of Spanish Town, not far from Rio Magno].

*P. cylindro*, Desh., affinis, sed. t. rosaceâ, costulis parvulis distantibus ornâtâ. Hab. Jamaica.

[non *Cylindrella rosea* Pfeiffer, 1844; see *carnea*, supra.]

**rubella Adams Pupa**

Plate 82, fig. 5

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

[Runaway Bay].

*P. cylindro*, Desh. affinis; sed t. minore, ardenter rubrâ; spirâ suprâ graciliore; anf. 14 perditis, 8 reliquis; labro tenui, ab anf. penultimo disjuncto. Long. partis amissæ .43 poll.; post decoll. .7 poll.; lat. .3 poll.

Is *Cylindrella* (1851, Cont. to Conch. no. 9: 183).

**rubra Adams Cylindrella**

No type selected

1849, Cont. to Conch. 2: 23.

*C. cylindrus*, Ad. Proc. Bost. Soc. Nat. Hist. Jan. 1849, received the name of *C. RUBRA* in my printed Catalogue of shells Jan. 1847. It is perhaps a variety of *C. Dunkeri* Pfr., but differs in having the greatest diameter at or above the middle of the shell, while in the latter it is in the lower third, above which the shell tapers regularly.

*C. rubra* is larger, has coarser striae, and is always deep red. *C. Dunkeri* is always brown. The last loses eight or nine whorls by truncation, and has twelve remaining.

Is absolute synonym of *cylindrus*.

**rufilabris** *Adams* *Cylindrella maugeri* Plate 63, fig. 8

1851 (April), Cont. to Conch. no. 9: 164; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 88.

Shell more or less robust, but rather thin: pearl white, with a tinge of yellow; lip vermilion, sometimes whitish on the inner side: finely striated on the back of the last whorl. Inhabits Portland.

**rufilabre** *Adams* *Cyclostoma augustae* Plate 58, fig. 1

1851 (April), Cont. to Conch. no. 9: 155; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 79.

The rufous or red lipped varieties of *Cyclostoma jayanum* and *C. augustae* may be designated by the name of RUFILABRE.

**rufilabre** *Adams* *Cyclostoma jayanum* Plate 57, fig. 3

1851 (April), Cont. to Conch. no. 9: 155; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 79.

The rufous or red lipped varieties of *Cyclostoma jayanum* and *C. Augustae* may be designated by the name of RUBFILABRE.

**sagittiferum** *Adams* *Cyclostoma* Plate 57, fig. 6

1850, Ann. Lyc. Nat. Hist. New York, 5: 53; 1851, Cont. to Conch. no. 8: 137.

Shell elongate, ovate conic: dingy white, with numerous inequidistant dark brown zigzag lines, with the four angles which are directed backwards arranged in spiral series on stripes of paler brown; with irregular transverse spots of dark brown next below the suture: with very crowded fine transverse ridges, which interrupt minute spiral elevated lines: truncate, with the loss of — whorls: spire rather long, with the outlines curvilinear: whorls remaining after truncation four, quite convex, with a well impressed suture: aperture obliquely ovate, with two peritremes; of which the outer one is moderately produced and not reflected posteriorly, but in the rest part is well produced, reflected nearly into the plane of the aperture, sinuous on the left side anteriorly; inner peritreme thick, moderately produced, slightly re-

flected: umbilicus very narrow, extending through the truncate summit.

For this species I am indebted to Mr. Chitty. It was found at Easington, in the parish of St. David's.

Mean divergence about  $45^{\circ}$ ; length .96 inch after truncation; greatest breadth .63 inch; least breadth .55 inch.

**seminudum Adams Cyclostoma** Plate 54, figs. 3, 6

1850, Ann. Lyc. Nat. Hist. New York, 5: 62; 1851, Cont. to Conch. no. 8: 143, 146.

[N W border of Manchester, and Bogues estate, St. Elizabeth. Ch.].

Shell brownish orange or brownish on the spire, reddish white on the last whorl; with a brown epidermis, which on the last whorl is mostly limited to two or three dark brown broad well defined spiral bands, which are often confluent in one: with the transverse striæ very fine; wrinkles commencing about the middle of the penult whorl, mostly foveate; last whorl very irregularly wrinkled above, with minute pits exterior to the well developed umbilical keel, otherwise smooth: spire well elevated: whorls nearly five, with a slight depression at the top of the last whorl; with the suture well impressed: aperture suborbicular, quite effuse and pointed above; lip thick, a little sinuate above, and well advanced on the right side: umbilicus about three-fourths as wide as the aperture. Operculum quite concave, with the spiral lamella elevated, but much thickened and appressed on the exterior side.

Inhabits Manchester.

Mean divergence about  $120^{\circ}$ ; height .65 inch; greatest breadth 1 inch; least breadth .79 inch.

**seminuda Adams Cylindrella** Plate 61, fig. 17

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

[Rock Springs; W part of St. Mary's].

C. t. parvâ, albidâ, subfusiformi, latè decollatâ; anf. 10 vel 11 perditis; anf. reliquis 9 suprâ subangulatis, mediis planulatis, costatis, costis pluribus prominentibus; anf. superis mediis obsoletè costatis; anf. ultimo bicarinato; aperturâ ab anf. penultimo latè disjunctâ; labro expanso, tenui. Long. post decoll. .33 poll.; lat. .09 poll.

[Syntype figured by Pilsbry 1903a, pl. 5, fig. 41.]



**sericinum Adams Cyclostoma**

Plate 57, fig. 11

1851 (April), Cont. to Conch. no. 9: 156; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 80.

Shell much elongated, conic: silky white, with four spiral series of brown dots, of which three appear on the spire; around the umbilicus is a fifth series less distinct: with crowded regular transverse obtuse fine raised lines: spire with the outlines moderately convex, truncated with the loss of two whorls; whorls remaining four and one-half, quite convex, with a rather deep suture; aperture slightly detached from the penult whorl; inner peritreme indistinct; outer peritreme moderately expanded, except on the left side, which is not reflected: umbilicus small.

Mean divergence about  $38^{\circ}$ ; length .62 inch; greatest breadth .36 inch; least breadth .26 inch.

Inhabits New-Hope, Westmoreland.

**serriferum Adams Cyclostoma**

Plate 58, fig. 5

1849, Cont. to Conch. no. 1: 4.

Shell ovate-conic, moderately elongate; reddish brown, with a series of rather dark spots of the same; with very thin and sharp transverse perpendicular rather distant lamellæ, which are serrated by a few faintly impressed spiral lines: spire with convex outlines; apex truncate with the loss of about three whorls; remaining whorls four and one-half, moderately convex, with a well impressed suture; last whorl scarcely detached from the penult whorl near the aperture, which is orbicular; inner peritreme not produced (?); outer peritreme shining, well expanded, except opposite to the penult whorl; umbilicus narrow, but extending through the truncate apex.

Mean divergence about  $40^{\circ}$ ; length .57 inch; greatest breadth .35 inch; least breadth .275 inch.

This may possibly be an accidental variety of *C. Grayanum* or of some other of this group. The only specimen which I have does not appear to have the lip fully developed with age.

**shepardianum Adams Cyclostoma**

Plate 58, fig. 3

1850, Cont. to Conch. no. 6: 92.

Shell long ovate-conic: color very various, from horn

color to reddish brown or slate color, with paler and darker lines alternating, with the lip red or yellowish white: with very closely set fine raised lines, which are traversed and partially interrupted by numerous finely waved or zigzag spiral striæ; with the upper ends of the transverse lines somewhat fascicled: spire long, with the outlines a little curvilinear: apex truncate, with the loss of — whorls: remaining whorls five to five and one-half, very convex, with a deep suture; the last whorl detached at its extremity from the penult whorl: aperture ovate-orbicular: inner peritreme moderately produced; outer peritreme moderately expanded, auriculate above, almost wanting on the left side: umbilicus very narrow, extending through the truncate apex.

	Mean divergence.	Length.	Greatest breadth.	Least breadth.
No. 1.	35°	.35 inch.	.25 inch.	.2 inch.
" 2.	33°	.57	.31	.225
" 3.	33°	.48	.31	.26
" 4.	30°	.46	.26	.225
" 5.	29°	.32	.18	.13
" 6.	25°	.45	.22	.17

The variations in color, in sculpture, in the degree of detachment of the last whorl, in form and in size, are remarkable. The varieties of coloring are sufficiently described above: those of sculpture depend on the occasional presence of delicate varices and the development of the spiral striæ, which are coarse or fine or scarcely perceptible: the distance of the aperture from the penult whorl varies from one-fifth to one-half of the diameter of the aperture.

### *similis Adams Achatina*

Plate 79, fig. 12

1850, Cont. to Conch. no. 7: 103.

Shell similar to *A. nemorensis*, but the outlines of the spire are nearly rectilinear, and consequently the spire is more slender; the surface is highly polished, and has but a few excessively fine transverse striæ; the brown stripes are wider. It also resembles *A. Phillipssi*, but its spire is shorter, with a greater divergence.

Mean divergence about 22°; length of spire .45 inch; total length .75 inch; breadth .23 inch.

Lectotype specimen figured by Pilsbry, 1907a, pl. 17, figs. 10, 11.

**similis Adams** *Cylindrella*

Plate 61, fig. 14

1849, Cont. to Conch. no. 2: 23.

Perhaps another variety of *C. Dunkeri*, Pfr. but is much smaller, has the aperture less angulated anteriorly, angulated at the left end of the upper side, and the lip is much more arched above: the striation is finer in proportion to the size: nine or ten whorls are lost by truncation, and twelve remain.

Length .475 inch; breadth .09 inch.

[Syntypes figured by Pilsbry 1903, pl. 35, figs. 47-49.]

**similis Adams** *Helix*

Type not located

1849, Cont. to Conch. no. 3: 34.

Species similar to *H. arboreoides* Ad.; but the shell is larger, the whorls are much higher, and there is an umbilicus about .04 inch in diameter extending through to the apex. The young of *H. epistylium* Mull. also resemble this species, but have no umbilicus, a much more convex base, and an angular periphery, while the periphery of this is very broadly rounded.

Greatest breadth .6 inch; least breadth .55 inch; height .36 inch.

**simplex Adams** *Cylindrella*

Plate 61, fig. 3

1849, Cont. to Conch. no. 2: 22.

Shell subovate, or fusiform, moderately elongated; whitish; with very oblique straight faint striae, with one moderately sharp carina at the anterior extremity, and another which is slight and obtuse a little above the middle of the last whorl; spire with the outlines quite convex throughout most of the shell; apex truncate with the loss of — whorls; ten and one-half whorls remaining, quite convex, with a deep suture; last whorl slightly produced; aperture angular at the anterior extremity and on the middle of the right side; lip thin, sharp, narrow, and moderately reflected.

Length .315 inch; breadth .1 inch.

**simulans Adams** *Cyclostoma*

Plate 59, fig. 2

1851, Cont. to Conch. no. 8: 138.

Shell long ovate conic: very pale brown or dingy white,

with numerous spiral series of small dark brown spots, which are often elongate, and which are arranged in inequidistant transverse stripes: with closely set rather strong transverse raised lines and indistinct spiral striæ, moderately crenulate along the suture: apex truncate with the loss of — whorls: spire with the outlines moderately curvilinear: whorls remaining after truncation four or five, quite convex, with a well impressed suture: aperture ovate orbicular, with two peritremes, of which the outer one is moderately expanded and reflected nearly into the plane of the aperture; the inner one is moderately produced and reflected: umbilicus very narrow, but extending through the truncate summit.

Mean divergence about  $37^{\circ}$ ; length after truncation .54 inch: greatest breadth .34 inch; least breadth .23 inch.

From Easington. At first sight this species appears like *C. Adamsi*, but is distinguished by being less elongated, by the spiral striæ, and by the double peritreme.

**simulans Adams Helix**

Plate 85, figs. 13–15

1849, Cont. to Conch. no. 3: 35; 1850, Ann. Lyc. Nat. Hist. New York, 5: 54.

Species like *H. fulva* Mull., (*H. chersina* Say,) and formerly supposed to be identical with that species. It is chiefly distinguished by numerous microscopic impressed spiral lines; the whorls are less by one, viz. four and two-thirds, and the spire is less elevated, with  $10^{\circ}$  more divergence. It is of a glossy brown, deeper than in *H. fulva*.

Mean divergence  $92^{\circ}$ ; greatest breadth .11 inch; least breadth .09 inch; height .08 inch.

**sincera Adams Helix**

Plate 83, figs. 15, 16

1845, Proc. Boston. Soc. Nat. Hist. 2: 16.

II. t. parvâ, depressâ, diaphanâ, pallidè corneâ, costulis crebris ornatâ; anf.  $4\frac{1}{2}$ , perconvexis; anf. ultimo rotundato; aperturâ sub-orbiculari, ab anf. penultimo valdè invasâ; labro tenui; umbilico lato. Div.  $160^{\circ}$ ; alt. .075 poll.; lat. max. .15 poll.; lat. min. .13 poll.

**sinuata Adams** *Cylindrella maugeri* Plate 63, fig. 9

1851 (April), Cont. to Conch. no. 9: 164; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 88.

Var. **SINUATA**. Shell not robust and rather thin, with the lip remarkably sinuate: of a dingy pearl white, with, on the last whorl, a fine white line below the suture, and another on the anterior keel; lip pale red, with a tinge of brown behind: with excessively fine striæ on the back of the last whorl. Inhabits the east part of Portland.

**solidum Adams** *Cyclostoma*

see *C. jayanum* Adams.

**solida Adams** *Cylindrella maugeri* Plate 62, fig. 15

1851 (April), Cont. to Conch. no. 9: 162; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 86.

Shell very thick and robust: very dark or blackish brown at both extremities, pale brown along the middle, with a pure white widening stripe next below the suture of the last whorl; pink in the lip and behind it: very coarsely striated on the last whorl, otherwise feebly striated. In paler specimens a faint tinge of red is seen on both extremities, and the lip is white. Inhabits the vicinity of Peace R. in the east part of Manchester.

**solitaria Adams** *Achatina* Type not located

1851 (April), Cont. to Conch. no. 9: 168; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 92.

Shell elongate, ovate conic: pale brown; with dark brown transverse lines, about three on each whorl, wanting on the first two or three whorls: with excessively minute crowded transverse striæ: spire with the outlines a little convex: apex rather small: whorls eight, moderately convex, slightly shouldered, with a rather deep suture; last whorl subplanulate, long: labrum thin, sharp, a little produced in the middle: columella well produced and turning a little to the left.

Mean divergence about  $20^{\circ}$ ; length .52 inch; breadth .15 inch; length of aperture .185 inch. Inhabits New Hope, Westmoreland.

**solitaria Adams Helicina**

Plate 78, figs. 1, 2

1845, Proc. Boston Soc. Nat. Hist. 2: 12.

[Goshen, St. Ann's].

*H. t. depressâ, rubrâ, fuscescente; anf.  $4\frac{1}{2}$ , lævibus; ultimo nunquam angulato; aperturâ semicirculari; labio infrâ emarginato; columellâ acutâ; labro subtenui, extrâ flavo; operculo tenui. Div.  $115^{\circ}$ ; alt. .22 poll.; lat. max. .35 poll.; lat. min. .31 poll.*

**soror Adams Helicina consanguinea**

Plate 86, figs. 3, 4

1850, Ann. Lyc. Nat. Hist. New York, 5: 51; 1851, Cont. to Conch. no. 8: 135.

Some specimens from the opposite extremity of the island, St. Thomas in the East, closely resemble *H. consanguinea* except in having the aperture well dilated and rounded in the upper part, instead of being contracted by a sinus in the lip; they also have the notch a little deeper, and the last whorl is a little more convex beneath. The shell also is much like *H. hirsuta*, but the lip is not so deep, and the aperture is longer and narrower. They present a distinct type, but I merely propose for it the name *SOROR*, without deciding whether it be of specific value.

**spinulosum Adams Cyclostoma**

Plate 55, fig. 11

1849, Cont. to Conch. no. 1: 1.

Shell short, globose-conic; dingy white, with several more or less interrupted brown spiral lines; with crowded transverse thin perpendicular lamellæ, which are decussated by numerous rather strong raised spiral lines, of which three about the middle of the whorls are larger; the points resulting from the decussation are elevated into minute spines where protected in the angle of the deep suture; spire with very convex outlines; apex usually truncate with the loss of two whorls; three and one-half whorls remaining, very convex; last whorl a little detached from the penult whorl near the aperture, but soldered to it by the outer peritreme; aperture exactly circular; inner peritreme much produced, striated parallel to the edge on the outside; outer peritreme moderately expanded and reflected convexly back of the plane of the aperture, finely scalloped with the ends of the spiral lines, and deeply striated parallel to the scallops;

umbilicus moderately wide, extending through the truncate apex.

Mean divergence  $75^{\circ}$ ; length .55 inch; greatest breadth .55 inch; least breadth .38 inch.

The spiral lines, as usual in this group, do not appear on the first whorl, but only on the last three.

May be identical to *C. lincinellum* Lamarck (1851, *ibid.*, no. 9: 153).

### **Spiraxis Adams [genus]**

1850, Cont. to Conch. no. 6: 87.

G. T. parvâ, turritâ: columellâ medio in laminam spiralem productâ: aperturâ ovali, medio parim divisâ: labro simplice.

Shell small and thin, much elongated: with the columella produced into a large stout spiral lamina, which gradually becomes obsolete in ascending two to four whorls above the aperture: the aperture is oval, but by the contraction of the labrum and the intrusion of the columellar lamina is often divided into the form of the figure 8: the labrum is simple and indented by a stricture on the middle of the whorl. To this genus may be referred *Achatina inusitata* Ad. p. 26 (of this work), which will therefore take the name of *Spiraxis inusitata* Ad.; and the two following species. Like many other of the species of small land shells of Jamaica, the individuals are extremely rare.

Type species *Achatina inusitata* Adams (subsequent designation, Pilsbry, 1907).

### **spretâ Adams Helix**

Plate 78, figs. 6-8

1851 (April), Cont. to Conch. no. 9: 173; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 97.

Shell orbicular, moderately depressed: very pale horn color, translucent: smooth: spire with the outlines a little curvilinear: whorls five, quite convex, shouldered, with a rather deep suture; last whorl well rounded: aperture sublunate: labrum thin and sharp: umbilicus rather narrow and deep. This species is best described by comparison with *H. peraffinis* and *H. Boothiana*. Above, the spire is nearly as much depressed as in the former species: beneath, the last whorl is nearly as convex as in the latter, while the umbilicus is as wide as in the former;

the aperture is not so wide as in *H. peraffinis* nor so high as in *H. Boothiana*.

Greatest breadth .25 inch; least breadth .22 inch; height .17 inch.

### **Stoastoma Adams [genus]**

1849, Mon. *Stoastoma*, type-species, *S. pisum* Adams 1849 (subsequent designation, Chitty, 1857).

Testæ aperturâ accuratè semicirculari, orâ crassâ; labro producto, regulariter curvato, haud reflexo; labio vix curvato; operculo calcareo, perconcavo, exilè et irregulariter lamellifero.

Aperture of shell in the form of the segment of a circle, equal to or a very little greater than a semicircle, the labrum being the arc and the labium its chord; the labrum, which is not reflected, is produced beyond the labium, and both are thickened on the extreme margin. The nuclear apex is permanent, and is always smooth and shining.

Externally the calcareous operculum is very deeply concave, with lamellæ slightly and irregularly projecting from the surface. Its margin is in the plane of the labium and parallel to that of the labrum. There is consequently a space resembling a portico under the arch of the labrum in front of the operculum. Hence the name of the genus, *στοα* a portico, *στομα* the aperture, as suggested by my friend Dr. A. A. Gould with the felicity characteristic of his nomenclature.

### **strangulata Adams Helix**

Plate 66, figs. 5-7

1849, Cont. to Conch. no. 2: 30.

Shell depressed-globular, moderately, regularly, and nearly equally convex above and below; reddish brown, paler beneath; with very fine granulated wrinkles; spire moderately convex, with a rather deep suture, last whorl very high; aperture small, subovate, very much constricted by two long narrow and deep exterior pits, which nearly meet under the lips, and which within project as two teeth connected at base, as in *H. Bronnii*, Pfr., but are not parallel; next is a large tooth, which terminates at the outer margin of the lip, and next a fourth on the columella, which enters a large deep indentation in the central region of the shell; lip broadly



reflected, but rather sharp, columellar part very wide and concavely flattened; umbilicus wanting.

Greatest breadth .95 inch; least breadth .8 inch; height .58 inch.

**striata Adams *Cylindrella maugeri*** Plate 62, fig. 14

1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell short, robust: pearl white or pale horn color; with a white, much expanded, but rather thin lip: aperture not oblique: with fine regular, rather distinct striæ, which are obsolete only at the summit. Inhabits Waterloo in the back part of Manchester.

**striatella [sic] Adams *Bulimus*** Plate 90, fig. 12

1845, Proc. Boston Soc. Nat. Hist. 2: 13.

B. t. parvâ, tenui, nitidâ, diaphanâ, elongatâ; anf. 7, convexis, striis robustis, parallelis — ornatis; aperturâ latâ; labro tenui; columellâ haud multum tortâ. Div. 30°; spiræ long. .15 poll.; long. tot. .2 poll.; lat. .07 poll.

**striatula Adams *Cylindrella alba*** Plate 61, fig. 9

1849, Cont to Conch. no. 2: 20.

Var. *striatula*; striæ very distinct under a common magnifier; length .52 inch; breadth .11 inch.

**striatula Adams *Cylindrella maugeri*** Plate 62, fig. 13

1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell thick, short, robust: pale greenish yellow, sometimes with a tinge of pale brown or horn color; lip white, thick, and well expanded: with fine regular approximate striæ, which are obsolete only at the summit.

**striosa Adams *Achatina*** Plate 80, fig. 12

1849, Cont. to Conch. no. 2: 26.

Shell elongated, conic; white, with a horn colored epidermis, which is much striated transversely; the shell is smooth; spire with nearly rectilinear outlines; apex not very small; whorls eight, short, moderately convex, with a deep suture; aperture short, ovate, moderately acute above; labrum thin, sharp, not produced along the middle; columella short, broadly truncated, much arcuated.

Mean divergence 17°; length .28 inch; breadth .085 inch; length of aperture .08.

Possibly only a variety of *Bulimus octonoides* with the

columella truncated (1851, *ibid.*, no. 9: 167). [Syntypes figured by Pilsbry, 1907, pl. 44, figs. 52, 53.]

**striosa Adams Geomelania**

Plate 91, figs. 1, 2

1850, Cont. to Conch. no. 6: 96.

Shell conic-cylindrical: whitish: with, on each whorl, about sixteen very slender somewhat arcuate ribs, and twenty-five to thirty fine spiral striæ, which traverse the ribs, but are sometimes obsolete on their summits; spire with rectilinear outlines: apex truncate with the loss of — whorls: whorls remaining about seven, moderately convex, with a deep suture: aperture ovate, widely and deeply effuse: labrum well expanded, reflected, and thickened; with the liguiform part moderately produced obtusely and obliquely at the lower part of the right side: labium well thickened, slightly separated from the penult whorl except at the upper extremity.

Mean divergence about  $10^{\circ}$ ; length .38 inch; greatest breadth .085 inch; least breadth .08 inch.

**subconica Adams Helix**

Plate 73, figs. 11, 12

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

H. t. tenui, latè subconicâ, imperforatâ, flavido-fuscâ, atro-fusco variè lineatâ;; anf. 5, haud multùm convexis, exilè striatis; anf. ultimo subangulato, subtùs convexo; aperturâ subrectangulari, curviter depressâ; labro tenuissimo; columellâ rectâ, acutâ. Div.  $100^{\circ}$ ; alt. 43 poll.; lat. max. .67 poll.; lat. min. .57 poll.

**subpyramidalis Adams Helix**

Plate 78, figs. 9, 10

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

H. t. tenui, latè subconicâ diaphanâ, pallidè corneâ; apice sub-acutâ; suturâ profundâ; anf. 6, planulatis, superis infrâ obtusè angulatis, ultimo medio angulato, subtùs convexo; labro tenuissimo; umbilico angusto, profundo. Div.  $90^{\circ}$ ; alt. .2 poll.; lat. max. .27 poll.; lat. min. .24 poll.

Synonym of *turbiniiformis* Pfr., 1839 (1851, Cont. to Conch. no. 9: 183).

**sulphurea Adams Helix**

Type not located

1849, Cont. to Conch. no. 3: 33.

Shell sub-globose, conic above, and a little tapering below; yellow, nearly transparent; smooth and shining; spire with the outlines a little convex, well elevated, conic; apex very small and acute; whorls four, a little convex, with a well impressed finely margined suture;

last whorl very long; aperture subsubovate; labrum very thin and sharp; columella much produced, nearly straight; umbilicus none.

Mean divergence  $90^{\circ}$ ; greatest breadth .175 inch; least breadth .13 inch; height .16 inch.

Perhaps this is a young shell, but probably not of any described species.

On page 33 we described *Helix sulphurea* as 'perhaps a young shell.' This opinion was founded on its papyraceous appearance. Mr. Chitty, from whom the original specimens were received, has recently furnished a series, which shows that this shell, with all the generic characters of *Helix*, is the last embryonic stage of the West Indian variety of *Dolium perdix*! In a mature *D. perdix*, this nucleus may be distinguished. In a young shell, near the apex, may be very easily seen a clearly defined margin of the nucleus, at which margin the smooth and polished nuclear surface is abruptly succeeded by the close spiral striæ which characterise the West Indian *D. perdix*. In the change from a continuous to a notched aperture, the anterior extremity becomes first angular, and before the next whorl is completed, the notch is perfect. (*ibid.*, 6: 98.)

#### swainsoniana Adams *Helix*

Plate 66, figs. 8-10

1851 (April), *Cont. to Conch.* no. 9: 169; 1851 (May), *Ann. Lyc. Hist. New York*, 5: 93.

Shell depressed, conic, subplanulate beneath; with a moderately sharpened periphery, on both sides of which the outline is convex: dingy or brownish white; with an ill defined infrasutural line of dark brown, commencing a little below the apex, and a spiral stripe of the same color below the middle of the whorls, commencing at the middle of the spire, and another stripe on the last whorl below the periphery; with the lip white: indistinctly granulated; with fine irregular striæ of growth: spire convex, moderately elevated: whorls nearly five, concave in the lower part, in the rest convex, with the suture lightly impressed: aperture transversely ovate or elliptical, with the lip well reflected backwards, and much thickened, with three teeth on the lower side, of which

the outer pair are joined together at base, and all of which have corresponding external furrows: umbilicus deep, partly covered by the expanded and thickened columella. Inhabits Westmoreland.

Greatest breadth 1.13 inch; least breadth .98 inch; height .6 inch; diameter of umbilicus .2 inch.

**tappanianum** *Adams Cyclostoma* Plate 57, fig. 10  
1851 (April), Cont. to Conch. no. 9: 157; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 81.

Shell elongate conoid: brownish orange, with a paler band below the periphery of the last whorl, with the columella brown: with crowded strong transverse striæ, and less strongly impressed spiral striæ; spire with the outlines moderately convex, truncated with the loss of — whorls; remaining whorls four, slightly convex, with a moderately impressed suture: aperture ovate, acute above, with the margin not reflected but sharp: umbilicus indistinct.

Mean divergence about  $30^{\circ}$ ; length .41 inch; greatest breadth .2 inch; least breadth .18 inch.

May not be a Jamaican species (1851, Cont. to Conch. no. 9: 177).

**tappanianum** *Adams Stoastoma* Plate 88, figs. 13–15  
1850, Ann. Lyc. Nat. Hist. New York, 5: 65; 1851, Cont. to Conch. no. 8: 149.

Shell subdiscoidal: pale horn color, subtransparent: with seven spiral carinæ, of which the upper one is small and the lower one very minute, and of which two are visible on the upper whorls; with very delicate spiral raised lines, usually one between the first pair of carinæ and two or three in each following interspace: spire moderately and convexly elevated: whorls three and one-half, moderately convex, with a deep suture; last whorl scarcely detached from the penult whorl near the aperture: aperture rather more than a semicircle, a little contracted behind the labrum, which is well produced, above rather abruptly produced, scarcely modified by the carinæ; labium much detached from the penult whorl and a little reflected: umbilicus rather wide, with the spiral lamella moderately developed. Operculum very

deeply concave externally, smooth, auriculate at both extremities.

Mean divergence about  $140^{\circ}$ ; height .045 inch; greatest breadth .07 inch.

This shell also resembles *S. Gouldianum*, and might be mistaken for the young of that species. But the labrum is thickened as in all mature shells of *Stoastoma* proper. It is most readily distinguished from that species by the peculiarities of the aperture.

**tectilabre Adams Cyclostoma**

Plate 59, fig. 9

1849, Cont. to Conch. no. 1: 10.

Shell ovate-conic; blueish horn colored, with several interrupted spiral brown lines; with rather closely set sharp elevated transverse lamellæ, without spiral striæ; spire with quite convex outlines; apex truncate with the loss of two and one-half very small whorls; nearly four very convex whorls remaining, with a deep suture, aperture a little detached from the penult whorl, nearly orbicular, slightly angulated above; inner peritreme very slightly spread, but covering the outer one, which is extremely small; umbilicus small.

Operculum much larger than the aperture, with its margin reflected abruptly far behind the margin of the aperture!

Mean divergence  $45^{\circ}$ ; length .53 inch; greatest breadth .4 inch; least breadth .3 inch.

**tenella Adams Cyllindrella**

Plate 61, fig. 8

1849, Cont. to Conch. no. 2: 23.

Much more slender than *C. Dunkeri*, has thirteen whorls, and the striation is microscopically minute: the aperture is like that of *C. Dunkeri*, and, like *C. rubra*, it tapers from above the middle down to the anterior extremity.

Length .5 inch, breadth .077 inch.

**tenera Adams Achatina**

Plate 80, fig. 14

1850, Cont. to Conch. no. 7: 104.

Shell elongate, somewhat conic: horn color: with numerous well impressed regular transverse striæ: apex subacute: spire with the outlines a little convex: whorls seven and one-half, scarcely convex, somewhat should-

ered above, with a well impressed suture: aperture ovate, acute above: labrum thin, slightly advanced in the upper half, retreating below: columella moderately curved, distinctly truncated.

Mean divergence about  $14^{\circ}$ ; length of spire .21 inch; total length .3 inch; breadth .075 inch.

[Holotype figured by Pilsbry, 1907a, pl. 10, fig. 56.]

**tenera Adams** *Cylindrella*

Plate 61, fig. 6

1849, Cont. to Conch. no. 2: 23.

Also resembles *C. Dunkeri* in color and *C. rubra* in form. It is very small, has the aperture orbicular, and the striation microscopic; it loses six whorls by truncation, and has ten remaining.

Length .28 inch; breadth .055 inch.

**tenerrima Adams** *Helix*

Plate 72, figs. 11, 12

1845, Proc. Boston Soc. Nat. Hist. 2: 16.

[Goshen].

*H. t. tenuissimâ, subglobosâ, diaphanâ, fuscâ, pallidè virente, imperforatâ; anf. 5, convexis; ultimo maximo, inflato, subtùs convexo; aperturâ magnâ, suborbiculari; labro tenuissimo; columellâ infrâ expansâ. Div.  $115^{\circ}$ ; alt. .5 poll.; lat. max. .72 poll.; lat. min. .56 poll*

**tenuidens Adams** *Pupa*

Plate 82, fig. 10

1845, Proc. Boston Soc. Nat. Hist. 2: 15.

[Dublin Castle near Graywycke, on yam vines].

*P. ovata*, Say, affinis, et magnitudinis ejusdem; aperturâ suprâ dente magnâ lamelliformi intùs productâ, infrâ alterâ simili, minore, oppositâ; duobus alteris, unâ utrinque, oppositis.

**tenuis Adams** *Helicina*

Plate 90, figs. 8, 9

1849, Cont. to Conch. no. 1: 14.

Shell small, thin, conic, pale brown, with distant slender raised spiral lines, decussated on the spire by inequidistant lines of growth; whorls four and one-half, more inflated and subangular below the middle; aperture elliptical; labrum sharp, not reflected; labrum with a very thin deposit, columella slightly pointed.

Mean divergence  $90^{\circ}$ ; length .08 inch; greatest breadth .09 inch; least breadth .08 inch.

This also is a *Trochatella*.

**tenuistriatum Adams Cyclostoma**

Plate 57, fig. 5

1849, Cont. to Conch. no. 1: 8.

Shell elongate; deeply colored with greyish and reddish slate color, with an orange lip; with numerous distinct spiral striæ decussated by excessively minute and numerous transverse striæ and by a few distant fine deep striæ; spire with moderately convex outlines; apex truncate with the loss of two or three whorls; four and one-half rather convex whorls remaining, with a rather deep suture; aperture subelliptical; lip solid; inner peritreme scarcely produced; outer peritreme moderately expanded, thick, striated, edge blunt; umbilicus narrow, extending through.

Mean divergence  $37^{\circ}$ ; length .5 inch; greatest breadth .3 inch; least breadth .23 inch.

*Cyclostoma xanthostoma*, Sowb., is more coarsely sculptured with less numerous spiral grooves, has sometimes the coloring of the above, but is more frequently horn colored.

*Cyclostoma tenuistriatum* is frequently of a dingy white or very pale brown color.

**terebella Adams Bulimus**

Plate 80, fig. 16

1849, Cont. to Conch. no. 2: 28.

Shell very much elongated, regularly tapering to the summit; dingy white; with numerous transverse lightly impressed striæ; spire with rectilinear outlines; apex rather obtuse; whorls nine and one-half, short, quite convex, with a deep suture; aperture subovate, moderately acute above; labrum thin and sharp.

Mean divergence  $12^{\circ}$ ; length .3 inch; breadth .07 inch; length of aperture .052 inch.

[Holotype figured by Pilsbry, 1907a, pl. 1, fig. 11.]

**tesselata Adams Cyllindrella maugeri**

Plate 82, fig. 6

1851 (April), Cont. to Conch. no. 9: 166; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 90.

Shell rather robust: covered with alternate rectangular spots of cream color and amber, which terminate anteriorly at the cream colored keel; black behind the lip, which is white: smooth above, lightly striated on the

lower whorls, and coarsely striated on the black part of the last whorl. Inhabits St. Elizabeth.

**testudineum** *Adams Cyclostoma augustae* Plate 58, fig. 2  
1851, Cont. to Conch. no. 9: 155.

Another variety of *C. Augustæ* may be designated by the name of TESTUDINEUM. Its sculpture is more prominent, and the color is more or less like burnt umber. It approximates toward *C. fascia*.

**torrefacta** *Adams Helix* Plate 66, figs. 1-2  
1849, Cont. to Conch. no. 2: 31.

Shell conoid, with a very thin transparent epidermis, on the upper whorls, which is a little thicker and straw-colored on the lower whorls; smooth or with almost imperceptible striæ of growth; spire like that of *H. Cookiana*, Fer., but a little more elevated; whorls eight, short, moderately convex, with a well impressed suture; last whorl with the base, (intermediate between that of *H. Cookiana* and *H. epistylium*, Müll.) having its central region rather deeply but not very widely indented; aperture lunate; labrum sharp; columella somewhat twisted and produced rather obliquely; around the base of the last whorl within is a lamella, which slopes inwardly as it rises.

Dimensions of two varieties: No. 1: greatest breadth .7 inch; least breadth .63 inch; height .7 inch. No. 2: greatest breadth .6 inch; least breadth .55 inch; height .7 inch.

**tricolor** *Adams Cylindrella maugeri* Plate 63, fig. 10  
1851 (April), Cont. to Conch. no. 9: 163; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 87.

Shell rather robust: very dark brown at both extremities, with a narrow slowly widening snow white line next below the suture; lip rose red, a little whitish where it joins the penult whorl: with excessively minute striæ behind the lip. This appears to be Dr. Pfeiffer's var.  $\alpha$ . A sub-variety is more slender, paler at the end, and darker in the middle, with the aperture less wide. Inhabits Manchester. Paler specimens occur near Peace R., with the middle whorls of a dingy pearl color.



**tunicata Adams Helix**

Plate 72, figs. 9, 10

1849, Cont. to Conch. no. 3: 33.

Shell globose-conic; white beneath a thick epidermis, which is yellowish brown on the spire, and dark brown on the last whorl, and peels off in flakes in the early stages of decay; with fine striæ of growth and very lightly impressed spiral lines; spire conic, well elevated, with the outlines a little convex; apex acute; whorls five and one-half, rather convex, with a well impressed suture; aperture subquadrate, with the outer angle rounded off; labrum thin and sharp; columella pure white, dilated, somewhat spiral; umbilicus none.

Mean divergence  $110^{\circ}$ ; greatest breadth 1.05 inch; least breadth .85 inch; height 1 inch.

This species differs from *H. munda* in the conical and more elevated spire, greater size, stouter and subspiral columella, &c.

Synonym of *tumida* Pfr. (1851, *ibid.*, no. 10: 208).

**typica Adams Geomelania**

Plate 81, fig. 6

1850, Cont. to Conch. no. 6: 95.

Shell slender, conic: whitish: with, on each whorl, about twenty-six to thirty prominent acute-edged transverse ribs, which become obsolete only near the anterior extremity; with very numerous microscopic lightly impressed spiral striæ, which do not traverse the summits of the ribs: spire with rectilinear outlines: apex truncate with the loss of seven or eight whorls: whorls remaining about seven, moderately convex, with a well impressed suture: aperture ovate, widely and deeply effuse: labrum well expanded, moderately thickened; with the linguiform part at the anterior extremity of the right side, excessively produced obliquely, very narrow and subacute: labium well thickened, a little reflected and separated from the penult whorl except at the upper extremity.

Mean divergence about  $10^{\circ}$ ; length .47 inch; greatest breadth .125 inch; least breadth .11 inch.

- unicincta** *Adams* *Cylindrella maugeri* Plate 62, fig. 11  
 1851 (April), Cont. to Conch. no. 9: 163; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 87.

Shell of medium size and form: dingy pale yellow, whiter and sometimes reddish on the last whorl, with a broad dark brown stripe anteriorly; white on the lip, with a tinge of rose red behind: finely striate near the end of the last whorl. Inhabits Manchester.

- unicolor** *Adams* *Achatina* Plate 79, fig. 14  
 1849, Cont. to Conch. no. 2: 26.

Species similar to the preceding, but the shell is uniformly light brown, without any dark stripes; the striæ are rather more strongly impressed; the columella is not arcuate; and the form is rather more slender.

Mean divergence  $33^{\circ}$ ; length .7 inch; breadth .21 inch; length of aperture .33 inch.

[Syntype specimen figured by Pilsbry, 1907a, pl. 16, fig. 5.]

- unicolor** *Adams* *Cylindrella maugeri* Plate 62, fig. 10  
 1851 (April), Cont. to Conch. no. 9: 165; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell of medium size and form: pale yellow or pearl white, with a white lip: strongly striated on the back of the last whorl, finely striated on the middle whorls. Inhabits Porus in the east part of Manchester.

- unicolor** *Adams* *Spiraxis aberrans* Type not located  
 1851 (April), Cont. to Conch. no. 9: 168; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 92.

The variety of *Spiraxis aberrans*, which was described on page 88 as destitute of the transverse brown stripes, may be designated by the name UNICOLOR.

- valida** *Adams* *Cylindrella maugeri* Plate 62, fig. 12  
 1851 (April), Cont. to Conch. no. 9: 165; Ann. Lyc. Nat. Hist. New York, 5: 89.

Shell robust and very thick: pearl white, with a tinge of yellow on the middle or on all the whorls of the spire; last whorl whiter, with a pure white stripe on it next below the suture; lip pure white and very thick: strongly striated on the back of the last whorl, finely striated up to the middle of the shell. Inhabits near Peace R., Manchester.

**valida Adams *Helicina depressa*** Plate 86, figs. 5, 6

1850, Ann. Lyc. Nat. Hist. New York, 5: 52; 1851, Cont. to Conch. no. 8: 136.

I am indebted to Mr. Holland for a variety of *Helicina depressa* of extraordinary size. Its mean divergence is  $140^{\circ}$ ; greatest breadth .33 inch; least breadth .28 inch; height .18 inch. The corresponding dimensions of an ordinary specimen are  $140^{\circ}$ ; .24 inch; .2 inch; .125 inch. It may be designated by the name of **VALIDA**.

**valida Adams *Helix*** Plate 66, figs. 11–13

1850, Cont. to Conch. 5: 77.

Shell hemispherical above, moderately convex beneath, with a very slight sharp carina on the periphery, which is otherwise well rounded: above dark reddish brown, often blackish along the suture, paler at the apex, often paler beneath; with a narrow pale band at the periphery; lip brown: surface rather finely but strongly and densely granulated, except near the apex: spire very convex and much elevated: whorls five and one-half, quite convex, with a rather deep suture: aperture much expanded above and laterally, transversely auriform; with the lip well reflected and thickened; with four teeth, which are similar to those of *H. Bronnii*: umbilicus wanting. This shell resembles *H. sinuata* in its sculpture and in the white line and delicate keel along the periphery: in respect of the teeth it resembles *H. Bronnii*. Last summer a specimen was loaned to me by Mr. Cuming as *H. Bronnii*. This species differs from both of the above in the much dilated aperture.

Greatest breadth 1.4 inch; least breadth 1.1 inch; height .8 inch: of a small variety, greatest breadth 1.17 inch; least breadth .97 inch; height .73 inch.

**variabile Adams *Cyclostoma*** Plate 55, fig. 6

1849, Cont. to Conch. no. 1: 3.

Shell moderately elongate, ovate conic; deep blackish blue when fresh, fading by exposure into pale yellowish brown, and then developing on the upper whorls two and on the last whorl three somewhat interrupted spiral brown lines and intermediate series of small brown spots, with a series just below the suture of large square spots,

with a wax-yellow lip; with very fine spiral striæ on the last three whorls, decussated by very close-set rounded ridges of growth, most of which are gathered in the suture into minute white crenulations; spire with very convex outlines; apex truncate with the loss of three to three and one-half whorls; four whorls remaining, which are quite convex and very slightly angular above the middle, with the suture rather deep; aperture circular; outer peritreme at first rather thin, smooth, and polished; in the old, the lip is filled between its moderately produced inner and outer margins with a solid deposit concentrically striated, not scalloped; umbilicus small, exhibiting but a part of the last whorl, extending through the truncate apex.

Mean divergence  $43^{\circ}$ ; length .53 inch; greatest breadth .34 inch; least breadth .26 inch.

**varians** *Adams Cyclostoma*

Plate 54, figs. 1, 2

1850, Ann. Lyc. Nat. Hist. New York, 5: 60; 1851, Cont. to Conch. no. 8: 143, 144.

Upper whorls horn color or light red; lower whorls white, with a brown epidermis: with the transverse striæ rather fine and irregular; wrinkles commencing on the antepenult whorl, regular, oblique and well defined on the penult whorl, sometimes regular on the lower part of the last whorl; umbilical keel well developed: spire somewhat depressed: whorls about four and one-half, scarcely flattened above, with a well impressed suture: aperture orbicular, slightly effuse and pointed at the junction with the penult whorl; lip rather thin, slightly advanced in the right side: umbilicus two-thirds as wide as the aperture. Operculum with a spiral lamella of about eight whorls, with the upper margins reflected and expanded so as to be nearly in contact.

Mean divergence about  $135^{\circ}$ ; height .55 inch; greatest breadth .9 inch; least breadth .72 inch.

**vicina** *Adams Achatina*

Plate 79, fig. 15

1845, Proc. Boston Soc. Nat. Hist. 2: 14.

Forsan *A. Phillipsii* var.; sed t. striis longitudinalibus crebris — instructâ, nunquam fusco-fasciatâ; lineâ infra-suturali a suturâ plus remotâ, spirâ brevior. Div.  $22^{\circ}$ ; spiræ long. .3 poll.; long. tot. .54 poll.; lat. .175 poll.

[Lectotype specimen figured by Pilsbry 1907a, pl. 9, fig. 44.]

**vicina** *Adams Geomelania*

Plate 81, fig. 12

1850, Cont. to Conch. no. 6: 96.

Shell similar to that of *G. minor*, with a greater divergence: it is usually thinner: the linguiform part of the lip is excessively produced laterally, and is very wide: the periphery of the last whorl is more angular than in *G. minor*.

**vilkinsoniae** *Adams Stoastoma*

Plate 87, figs. 1-3

1850, Ann. Lyc. Nat. Hist. New York, 5: 64; 1851, Cont. to Conch. no. 8: 148.

Shell subdiscoidal: pale horn color, subtransparent: with five spiral carinæ, of which one runs into the suture, and one appear on the middle of the whorls of the spire; some have, in place of the last one, two smaller carinæ; with very delicate spiral raised lines, usually four to six in each interspace: spire moderately and convexly elevated: whorls three and one-half, angulated, with a deep suture; last whorl rather large, detached from the penult whorl near the aperture: aperture campanulate; labrum produced very far, above abruptly produced and auriculate, with wide and deep scallops formed by the produced carinæ, labium much detached from the penult whorl and a little reflected: umbilicus rather wide, with the spiral lamella moderately developed. Operculum very deeply concave, auriculate at both extremities, very finely punctulate.

Mean divergence about  $140^{\circ}$ ; height .035 inch; greatest breadth .07 inch; least breadth .055 inch.

This species closely resembles *S. Gouldianum*, and is most readily distinguished by the difference in size. A closer inspection will detect the more essential differences.

[type specimen lost after photographing]

**virgatum** *Adams Cyclostoma chevalieri*

Plate 58, fig. 9

1851 (April), Cont. to Conch. no. 9: 156; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 80.

Variety VIRGATUM is dingy or pearl white, with the spiral dotted lines conspicuous.

**virgineum Adams Cyclostoma**

Type not located

1850, Cont. to Conch. no. 6: 90.

Shell short, globose-conic: dingy white, with transverse brown lines, most of which are on the last whorl; with the peritreme deep red: with crowded transverse rather strong perpendicular lamellae, which are decussated by the slender spiral ridges, that begin to appear on the penult whorl and are well developed on the last whorl, the intersections being neither nodulous nor spinous: spire with very convex outlines: apex truncate with the loss of — whorls: whorls remaining three, very convex, with a very deep suture; last whorl not detached in any part from the penult whorl: aperture exactly circular: inner peritreme moderately produced and a little reflected: outer peritreme well expanded throughout in the plane of the aperture, subauriculate above, finely striated concentrically, rather concave; umbilicus not very wide, but of nearly equal diameter through the truncated summit.

Mean divergence about  $68^{\circ}$ ; length .35 inch; greatest breadth .39 inch; least breadth .28 inch.

Identical with *C. pisum* (1851, *ibid.*, no. 9: 154).

**virginea Adams Helix**

Plate 74, figs. 8, 10

1849, Cont. to Conch. no. 3: 33.

Shell conic; pale brown, with the upper whorls and a zone on the periphery horn colored, with narrow portions of epidermis scattered somewhat in zigzag, which are white and hydrophanous; with fine striæ of growth; spire elevated with the outlines almost rectilinear; apex rather obtuse; whorls nearly six, a little convex, with the suture but little impressed; last whorl much advanced above over the aperture, which is suborbicular; lip very thin and sharp, except the columellar portion, which is much thickened and expanded, of a pink color, coalescing with the outer lip in a curve; umbilicus wanting.

Mean divergence  $80^{\circ}$ ; greatest breadth .78 inch; least breadth .67 inch; height .73 inch.

**vitrina "Adams" Pfeiffer *Helix boothiana***

1852, Martini-Chemnitz, Conch.-Cab., (2) 1: Sect. 12, pt. 1, p. 111.

Not an Adams name.

**wilkinsonii Adams *Cyclostoma***

Plate 59, fig. 12

1849, Cont. to Conch. no. 1: 6.

Shell small, subcylindrical; whitish, with a few small distant pale brown spots in a spiral series; with not very closely set sharp transverse raised lines; spire with slightly convex outlines; apex truncate with the loss of three whorls, of which *the second and third are* seen in the young shell to be *entirely and widely detached*; four whorls remaining, very convex, with a very deep suture; last whorl widely detached from penult whorl near the aperture, acutely angular above; aperture suborbicular, quite angular above; inner peritreme moderately produced; outer peritreme rather small, concentrically striated, reflected a little back of the plane of the aperture, above produced into an angle, with two or three small brown spots; umbilicus very small, but extending through and spreading near the apex.

Mean divergence about  $17^{\circ}$ ; length .35 inch; greatest breadth .16 inch; least breadth .12 inch.

**yallahense Adams *Cyclostoma***

Plate 55, fig. 12

1851 (April), Cont. to Conch. no. 9: 156; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 80.

This species resembles *C. hyacinthinum*, which is probably identical with *C. Banksianum* Sowb. But it is smaller and more slender; the color is bluish brown, and does not change by age or exposure into orange near the aperture; the striæ are coarser; the oblique indentations are often obsolete. The operculum is similar to that of *C. hyacinthinum*.

Mean divergence about  $46^{\circ}$ ; length .48 inch; greatest breadth .32 inch; least breadth .27 inch.

Although this shell so much resembles the species with which we have compared it, a peculiar type is easily recognized in it. The two types are geographically remote; this species inhabiting the east end of the island from Yallahs' Hill eastward, while the other occurs in the middle of the south side (Manchester) and westward.

Neither species has been found in the intermediate regions.

**zonata Adams** *Cylindrella*

Plate 62, fig. 5

1851 (April), Cont. to Conch. no. 9: 161; 1851 (May), Ann. Lyc. Nat. Hist. New York, 5: 85.

Shell cylindric in the lower two-thirds, very robust: pink with a tinge of brown or purple, with a pearl white zone along the suture; pale brown in the aperture: with an elegant silky lustre produced by crowded oblique very fine striæ: spire with the outlines convex in their upper half; apex truncate with the loss of — whorls: whorls remaining eight, moderately convex, slightly margined on the lower side, with a moderately impressed suture: aperture similar to that of *C. rosea*, but more dilated in the lower part of the left side, and with the lip less expanded. It resembles *C. cylindrus*, but differs in always having a white zone, and in being often tinged with brown; it is much more robust: the aperture of *C. cylindrus* is more like that of *C. rosea* than of this shell.

Length 1.18 inch; breadth .41 inch.



Plates

54-91

## Plate 54

Figs. 1, 2. *Cyclostoma varians* Adams. Lectotype, here selected,  
MCZ 156063 (20.7 mm wd  $\times$  15.7 mm ht).

Figs. 3, 6. *Cyclostoma seminudum* Adams. Lectotype, here selected,  
MCZ 119462 (22.8 mm wd  $\times$  17.2 mm ht).

Figs. 4, 5. *Cyclostoma crassum* Adams. Lectotype, here selected,  
MCZ 275700 (17.8 mm wd  $\times$  14.3 mm ht).

Figs. 7, 8. *Cyclostoma pallescens* Adams. Lectotype, here selected,  
MCZ 260870 (28.4 mm wd  $\times$  16.9 mm ht).

Figs. 9, 12. *Cyclostoma jugosum* Adams. Lectotype, here selected,  
MCZ 275954 (24.1 mm wd  $\times$  15.8 mm ht).

Figs. 10, 11. *Cyclostoma perpallidum* Adams. [Westmoreland.]  
Lectotype, here selected, MCZ 275676 (19.5 mm wd  $\times$  12.8 mm ht).



Plate 54

## Plate 55

Figs. 1, 4, 5. *Cyclostoma duffianum* Adams. Holotype MCZ 156064 (43.8 mm wd  $\times$  26.6 mm ht).

Figs. 2, 3. *Cyclostoma dubiosum* Adams. Lectotype, here selected, MCZ 275677 (11.8 mm wd  $\times$  5.3 mm ht).

Fig. 6. *Cyclostoma variabile* Adams. Lectotype, here selected, MCZ 275981 (8.9 mm wd  $\times$  12.9 mm ht).

Fig. 7. *Cyclostoma hillianum* Adams. Lectotype, here selected, MCZ 275971 (11.6 mm wd  $\times$  10.1 mm ht).

Fig. 8. *Cyclostoma moussonianum* Adams. Lectotype, here selected, MCZ 275685 (12.0 mm wd  $\times$  12.3 mm ht).

Fig. 9. *Cyclostoma pisum* Adams. Lectotype, here selected, MCZ 275681 (7.3 mm wd  $\times$  7.9 mm ht).

Fig. 10. *Cyclostoma amabile* Adams. Lectotype, here selected, MCZ 275959 (12.3 mm wd  $\times$  12.7 mm ht).

Fig. 11. *Cyclostoma spinulosum* Adams. Lectotype, here selected, MCZ 275689 (13.0 mm wd  $\times$  14.1 mm ht).

Fig. 12. *Cyclostoma yallahense* Adams. East end of the island, from Yallah's Hill eastward. Lectotype, here selected, MCZ 275993 (9.0 mm wd  $\times$  11.4 mm ht).



Plate 55

## Plate 56

- Fig. 1. *Cyclostoma amandum* Adams. Lectotype here selected, MCZ 275939 (15.8 mm wd  $\times$  14.3 mm ht).
- Fig. 2. *Cyclostoma fimbriatulum albinodatum* Adams. [Westmoreland.] Lectotype, here selected, MCZ 275942 (14.5 mm wd  $\times$  14.1 mm ht).
- Fig. 3. *Cyclostoma fimbriatulum docens* Adams. St. Elizabeth. Lectotype, here selected, MCZ 275940 (13.3 mm wd  $\times$  12.3 mm ht).
- Fig. 4. *Cyclostoma chittyi* Adams. Lectotype, here selected, MCZ 275962 (15.4 mm wd  $\times$  15.4 mm ht).
- Fig. 5. *Cyclostoma anomalum* Adams. Holotype, MCZ 275966 (11.8 mm wd  $\times$  11.9 mm ht).
- Fig. 6. *Cyclostoma aculeosum* Adams. Holotype, MCZ 275916 (14.2 mm wd  $\times$  12.5 mm ht).
- Fig. 7. *Cyclostoma blandianum* Adams. Lectotype, here selected, MCZ 275975 (5.4 mm wd  $\times$  6.5 mm ht).
- Fig. 8. *Cyclostoma hillianum leporilabre* Adams. Lectotype, here selected, MCZ 275921 (14.1 mm wd  $\times$  12.6 mm ht).
- Fig. 9. *Cyclostoma lima* Adams. Lectotype, here selected, MCZ 185172 (17.5 mm wd  $\times$  21.9 mm ht).
- Fig. 10. *Cyclostoma hyacinthinum* Adams. Lectotype, here selected, MCZ 275973 (10.5 mm wd  $\times$  14.3 mm ht).
- Fig. 11. *Cyclostoma lamellosum* Adams. Lectotype, here selected, MCZ 275957 (8.5 mm wd  $\times$  11.9 mm ht).
- Fig. 12. *Cyclostoma retrorsum* Adams. Lectotype, here selected, MCZ 233803 (12.6 mm wd  $\times$  17.1 mm ht).

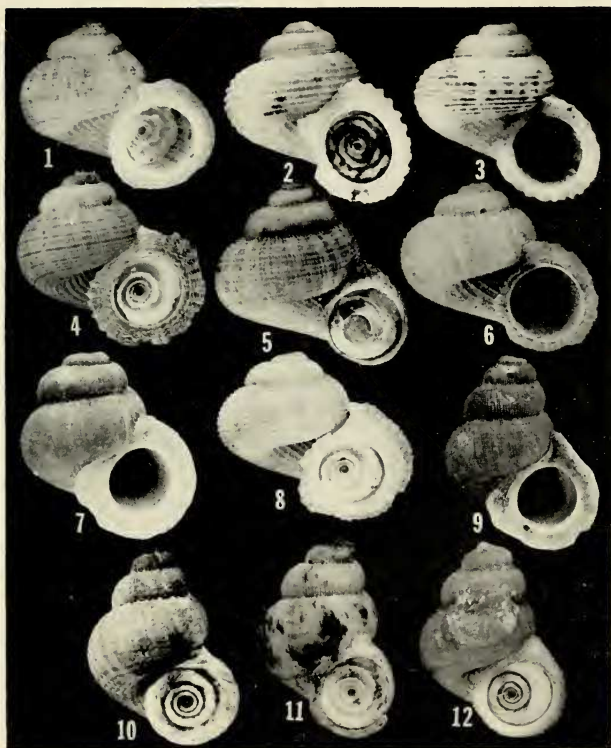


Plate 56

## Plate 57

- Fig. 1. *Cyclostoma nitens* Adams. Lectotype, here selected, MCZ 186228 (10.9 mm wd  $\times$  16.5 mm ht).
- Fig. 2. *Cyclostoma quinque-fasciatum* Adams. Lectotype, here selected, MCZ 186215 (8.8 mm wd  $\times$  19.8 mm ht).
- Fig. 3. *Cyclostoma jayanum rufilabre* Adams. Lectotype, here selected, MCZ 275920 (13.6 mm wd  $\times$  19.4 mm ht).
- Fig. 4. *Cyclostoma pauperatum* Adams. Lectotype, here selected, MCZ 275717 (6.5 mm wd  $\times$  13.5 mm ht).
- Fig. 5. *Cyclostoma tenuistriatum* Adams. Lectotype, here selected, MCZ 275990 (9.4 mm wd  $\times$  13.6 mm ht).
- Fig. 6. *Cyclostoma sagittiferum* Adams. [St. David.] Lectotype, here selected, MCZ 275996 (14.3 mm wd  $\times$  22.5 mm ht).
- Fig. 7. *Cyclostoma papyraceum* Adams. [Yallah's Hill.] Lectotype, here selected, MCZ 275710 (10.6 mm wd  $\times$  20.2 mm ht).
- Fig. 8. *Cyclostoma muticum* Adams. Lectotype, here selected, MCZ 186251 (6.4 mm wd  $\times$  13.9 mm ht).
- Fig. 9. *Cyclostoma proximum* Adams. Lectotype, here selected, MCZ 186259 (11.4 mm wd  $\times$  19.2 mm ht).
- Fig. 10. *Cyclostoma tappanianum* Adams. Lectotype, here selected, MCZ 275910 (6.1 mm wd  $\times$  11.4 mm ht).
- Fig. 11. *Cyclostoma sericinum* Adams. New-Hope, Westmoreland. Lectotype, here selected, MCZ 275675 (7.1 mm wd  $\times$  13.5 mm ht).
- Fig. 12. *Cyclostoma jayanum nigrilabre* Adams. [Manchester.] Lectotype, MCZ 275951 (14.6 mm wd  $\times$  21.7 mm ht).



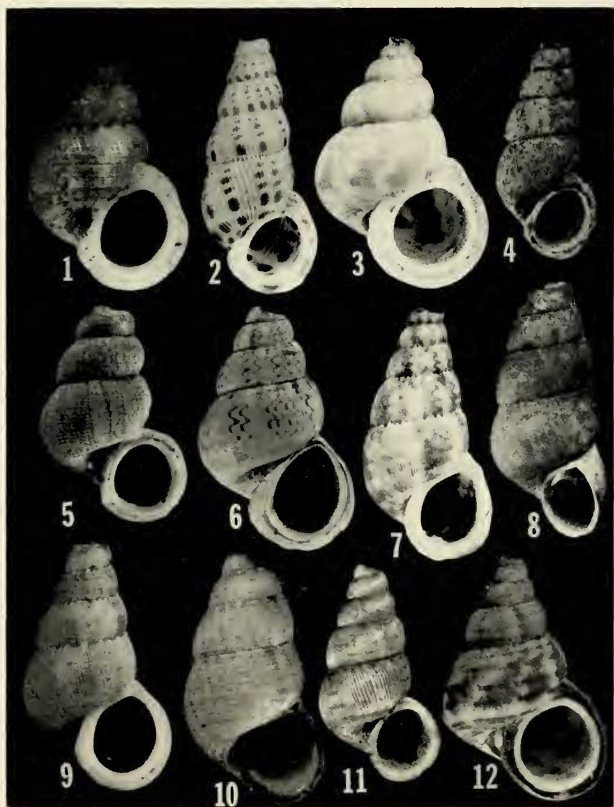


Plate 57

## Plate 58

- Fig. 1. *Cyclostoma augustae rufilabre* Adams. Lectotype, here selected, MCZ 186226 (13.0 mm wd  $\times$  20.7 mm ht).
- Fig. 2. *Cyclostoma augustae testudineum* Adams. Lectotype, here selected, MCZ 186224 (13.5 mm wd  $\times$  19.9 mm ht).
- Fig. 3. *Cyclostoma shepardianum* Adams. Lectotype, here selected, MCZ 275986 (7.0 mm wd  $\times$  12.4 mm ht).
- Fig. 4. *Cyclostoma mordax* Adams. Lectotype, here selected, MCZ 275704 (7.4 mm wd  $\times$  14.5 mm ht).
- Fig. 5. *Cyclostoma serriferum* Adams. Lectotype, here selected, MCZ 275679 (8.2 mm wd  $\times$  13.1 mm ht).
- Fig. 6. *Cyclostoma redfieldianum* Adams. Holotype, MCZ 275994 (11.6 mm wd  $\times$  16.6 mm ht).
- Fig. 7. *Cyclostoma modestum* Adams. Lectotype, here selected, MCZ 177147 (3.6 mm wd  $\times$  6.8 mm ht).
- Fig. 8. *Cyclostoma mirandum* Adams. Lectotype, here selected. MCZ 275707 (11.4 mm wd  $\times$  16.5 mm ht).
- Fig. 9. *Cyclostoma chevalieri virgatum* Adams. Lectotype, here selected, MCZ 275953 (10.4 mm wd  $\times$  14.8 mm ht).
- Fig. 10. *Cyclostoma fecundum* Adams. Lectotype, here selected, MCZ 186235 (8.9 mm wd  $\times$  16.5 mm ht).
- Fig. 11. *Cyclostoma moribundum* Adams. Lectotype, here selected, MCZ 275683 (8.7 mm wd  $\times$  13.9 mm ht).
- Fig. 12. *Cyclostoma fecundum distinctum* Adams. Lectotype, here selected, MCZ 186242 (9.1 mm wd  $\times$  18.6 mm ht).

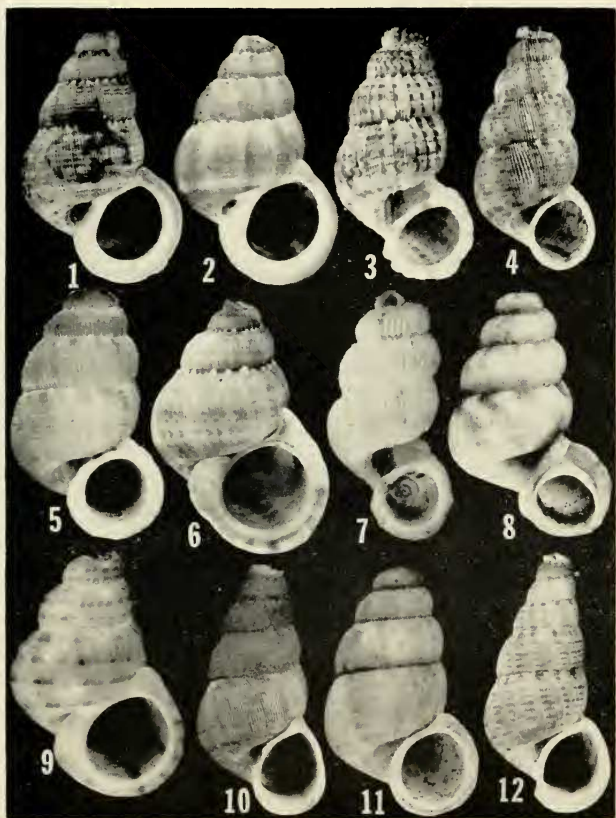


Plate 58

## Plate 59

- Fig. 1. *Cyclostoma newcombianum* Adams. Lectotype, here selected, MCZ 275708 (7.3 mm wd  $\times$  12.6 mm ht).
- Fig. 2. *Cyclostoma simulans* Adams. Lectotype, here selected, MCZ 186253 (8.1 mm wd  $\times$  14.2 mm ht).
- Fig. 3. *Cyclostoma ignilabre* Adams. Lectotype, here selected, MCZ 275974 (6.7 mm wd  $\times$  12.2 mm ht).
- Fig. 4. *Cyclostoma granosum* Adams. Holotype, MCZ 276016 (8.9 mm wd  $\times$  15.1 mm ht).
- Fig. 5. *Cyclostoma griffithianum* Adams. [Yallah's Village.] Lectotype, here selected, MCZ 275958 (7.2 mm wd  $\times$  14.9 mm ht).
- Fig. 6. *Cyclostoma campbelli* Adams. Holotype, MCZ 275713 (4.8 mm wd  $\times$  8.8 mm ht).
- Fig. 7. *Cyclostoma xanthostoma albilabre* Adams. Lectotype, here selected, MCZ 275931 (8.0 mm wd  $\times$  13.2 mm ht).
- Fig. 8. *Cyclostoma fusco-lineatum* Adams. Holotype, MCZ 275972 (10.1 mm wd  $\times$  13.7 mm ht).
- Fig. 9. *Cyclostoma tectilabre* Adams. Lectotype, here selected, MCZ 275673 (9.6 mm wd  $\times$  12.5 mm ht).
- Fig. 10. *Cyclostoma maritimum* Adams. Lectotype, here selected, MCZ 186247 (7.6 mm wd  $\times$  15.2 mm ht).
- Fig. 11. *Cyclostoma aurora* Adams. Lectotype, here selected, MCZ 186249 (7.6 mm wd  $\times$  14.6 mm ht).
- Fig. 12. *Cyclostoma wilkinsonii* Adams. Lectotype, here selected, MCZ 275988 (3.7 mm wd  $\times$  8.0 mm ht).

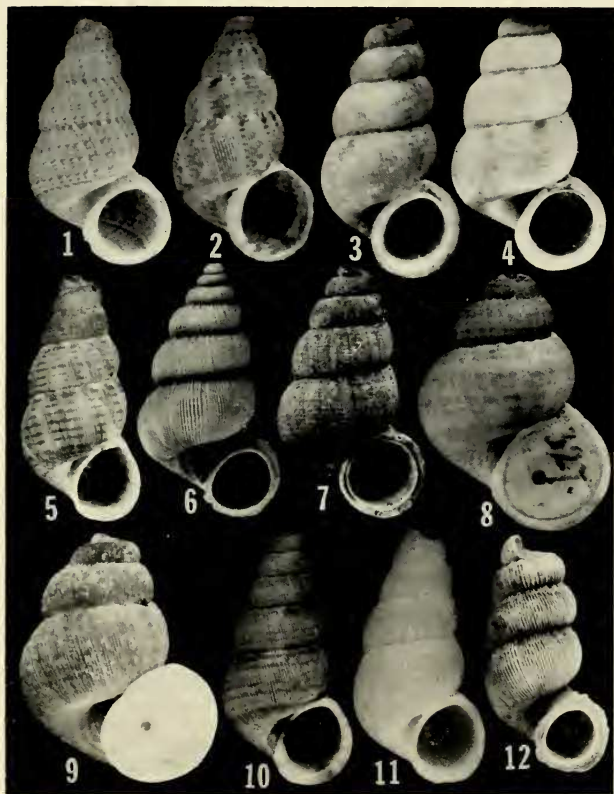


Plate 59

## Plate 60

- Fig. 1. *Cyclostoma bronnii* Adams. Lectotype, here selected, MCZ 177149 (12.2 mm wd  $\times$  16.7 mm ht).
- Fig. 2. *Cyclostoma chevalieri* Adams. Lectotype, here selected, MCZ 275909 (11.3 mm wd  $\times$  16.2 mm ht).
- Fig. 3. *Cyclostoma concentricum* Adams. Lectotype, here selected, MCZ 275983 (9.3 mm wd  $\times$  13.5 mm ht).
- Fig. 4. *Cyclostoma papyraceum abbreviatum* Adams. Lectotype, here selected, MCZ 275712 (9.5 mm wd  $\times$  15.5 mm ht).
- Fig. 5. *Cyclostoma album fuscum* Adams. [St. David.] Lectotype, here selected, MCZ 275977 (9.8 mm wd  $\times$  13.7 mm ht).
- Fig. 6. *Cyclostoma ignilabre albilabre* Adams. Lectotype, here selected, MCZ 275930 (6.7 mm wd  $\times$  11.1 mm ht).
- Fig. 7. *Cyclostoma crenulosum* Adams. Lectotype, here selected, MCZ 275912 (12.0 mm wd  $\times$  21.5 mm ht).
- Fig. 8. *Cyclostoma intermedium* Adams. Lectotype, here selected, MCZ 275944 (9.0 mm wd  $\times$  11.5 mm ht).
- Fig. 9. *Cyclostoma monstrosus* Adams. Holotype, MCZ 275915 (8.9 mm wd  $\times$  13.5 mm ht).
- Fig. 10. *Cyclostoma chevalieri album* Adams. Lectotype, here selected, MCZ 275946 (9.9 mm wd  $\times$  13.8 mm ht).

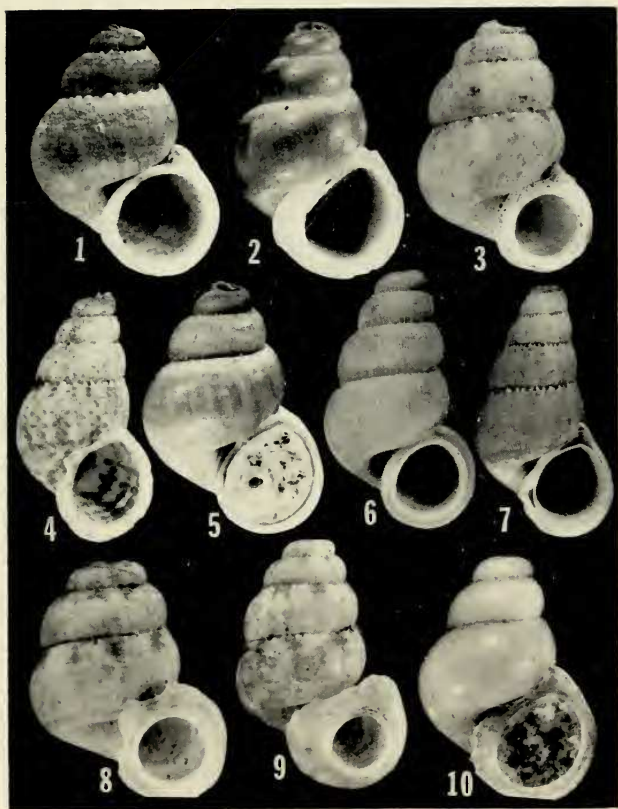


Plate 60

## Plate 61

- Fig. 1. *Cylindrella augustae* Adams. Lectotype, here selected, MCZ 275737 (4.2 mm wd  $\times$  29.1 mm ht).
- Fig. 2. *Cylindrella hollandi* Adams. Holotype, MCZ 275738 (4.7 mm wd  $\times$  21.2 mm ht).
- Fig. 3. *Cylindrella simplex* Adams. Holotype, MCZ 260842 (2.3 mm wd  $\times$  8.1 mm ht).
- Fig. 4. *Cylindrella agnesiana diminuta* Adams. Flamstead, Port Royal Mountains, [St. David's = St. Thomas]. Holotype, MCZ 275735 (3.4 mm wd  $\times$  6.4 mm ht).
- Fig. 5. *Cylindrella agnesiana* Adams. Lectotype, here selected, MCZ 155905 (6.3 mm wd  $\times$  29.5 mm ht).
- Fig. 6. *Cylindrella tenera* Adams. Holotype, MCZ 155896 (6.9 mm wd  $\times$  20.0 mm ht).
- Fig. 7. *Cylindrella inornata* Adams. Lectotype, here selected, MCZ 155907 (2.4 mm wd  $\times$  6.4 mm ht).
- Fig. 8. *Cylindrella tenella* Adams. Lectotype, here selected, MCZ 155894 (2.5 mm wd  $\times$  12.3 mm ht).
- Fig. 9. *Cylindrella alba striatula* Adams. [Roaring R., Westmoreland.] Lectotype, here selected, MCZ 155944 (2.8 mm wd  $\times$  3.6 mm ht).
- Fig. 10. *Cylindrella elatior* Adams. Westmoreland. Lectotype, here selected, MCZ 155893 (3.3 mm wd  $\times$  23.5 mm ht).
- Fig. 11. *Cylindrella alba* Adams. Lectotype, here selected, MCZ 155947 (2.3 mm wd  $\times$  9.9 mm ht).
- Fig. 12. *Cylindrella cumingi* Adams. Lectotype, here selected, MCZ 155948 (5.8 mm wd  $\times$  35.0 mm ht).
- Fig. 13. *Cylindrella greyana* Adams. Lectotype, selected by Clench & Turner, 1948, pl. 23, fig. 7, MCZ 177215 (2.0 mm wd  $\times$  6.6 mm ht).
- Fig. 14. *Cylindrella similis* Adams. Lectotype, here selected, MCZ 260840 (2.4 mm wd  $\times$  13.3 mm ht).
- Fig. 15. *Cylindrella costulosa* Adams. Lectotype, here selected, MCZ 146555 (2.1 mm wd  $\times$  13.3 mm ht).
- Fig. 16. *Cylindrella robertsi* Adams. Lectotype, here selected, MCZ 146552 (ex Bland) (2.2 mm wd  $\times$  7.5 mm ht).
- Fig. 17. *Cylindrella seminuda* Adams. Lectotype, here selected, MCZ 155909 (2.4 mm wd  $\times$  8.6 mm ht).
- Fig. 18. *Cylindrella columna intermedia* Adams. Lectotype, here selected, MCZ 275750 (6.1 mm wd  $\times$  20.7 mm ht).
- Fig. 19. *Cylindrella rosea fortis* Adams. Lectotype, here selected, MCZ 275751 (8.8 mm wd  $\times$  29.4 mm ht).
- Fig. 20. *Cylindrella pusilla* Adams. Holotype, MCZ 155892 (1.6 mm wd  $\times$  5.7 mm ht).
- Fig. 21. *Cylindrella ambigua* Adams. Holotype, MCZ 275744 (18.2 mm wd  $\times$  25.2 mm ht).
- Fig. 22. *Cylindrella columna* Adams. Lectotype, here selected, MCZ 275749 (6.0 mm wd  $\times$  18.4 mm ht).



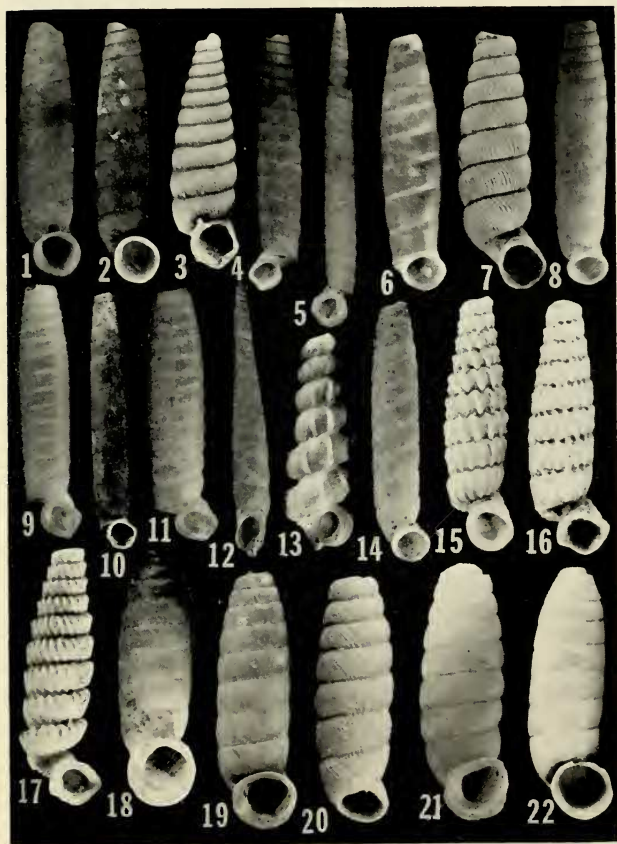


Plate 61

## Plate 62

- Fig. 1. *Cylindrella rosea magna* Adams. Lectotype, here selected, MCZ 276008 (9.1 mm wd  $\times$  24.6 mm ht).
- Fig. 2. *Cylindrella rosea* Pfeiffer. MCZ 155989 (11.3 mm wd  $\times$  32.7 mm ht).
- Fig. 3. *Cylindrella aspera* Adams. Lectotype, here selected, MCZ 275732 (7.8 mm wd  $\times$  24.4 mm ht).
- Fig. 4. *Cylindrella lata* Adams. Lectotype, here selected, MCZ 275690 (8.3 mm wd  $\times$  21.0 mm ht).
- Fig. 5. *Cylindrella zonata* Adams. Lectotype, here selected, MCZ 275963 (10.6 mm wd  $\times$  29.8 mm ht).
- Fig. 6. *Cylindrella gravesii* Adams. Lectotype, here selected, MCZ 275739 (5.7 mm wd  $\times$  6.4 mm ht).
- Fig. 7. *Cylindrella pupaeformis* Adams. Lectotype, here selected, MCZ 275937 (3.3 mm wd  $\times$  10.8 mm ht).
- Fig. 8. *Cylindrella carnea cerina* Adams. Lectotype, here selected, MCZ 155987 (7.4 mm wd  $\times$  20.0 mm ht).
- Fig. 9. *Cylindrella montana* Adams. [Manchester.] Lectotype, here selected, MCZ 275902 (4.0 mm wd  $\times$  14.5 mm ht).
- Fig. 10. *Cylindrella maugeri unicolor* Adams. Porus, east part of Manchester. Lectotype, here selected, MCZ 155850 (6.8 mm wd  $\times$  20.1 mm ht).
- Fig. 11. *Cylindrella maugeri uncinata* Adams. Manchester. Lectotype, here selected, MCZ 155868 (6.8 mm wd  $\times$  21.3 mm ht).
- Fig. 12. *Cylindrella maugeri valida* Adams. Near Peace River, Manchester. Lectotype, here selected, MCZ 155853 (7.5 mm wd  $\times$  20.8 mm ht).
- Fig. 13. *Cylindrella maugeri striatula* Adams. Lectotype, here selected, MCZ 155839 (6.7 mm wd  $\times$  16.2 mm ht).
- Fig. 14. *Cylindrella maugeri striata* Adams. Waterloo, Manchester. Lectotype, here selected, MCZ 155851 (7.5 mm wd  $\times$  9.5 mm ht).
- Fig. 15. *Cylindrella maugeri solida* Adams. Vicinity of Peace River, east part of Manchester. Lectotype, here selected, MCZ 155880 (7.4 mm wd  $\times$  9.7 mm ht).

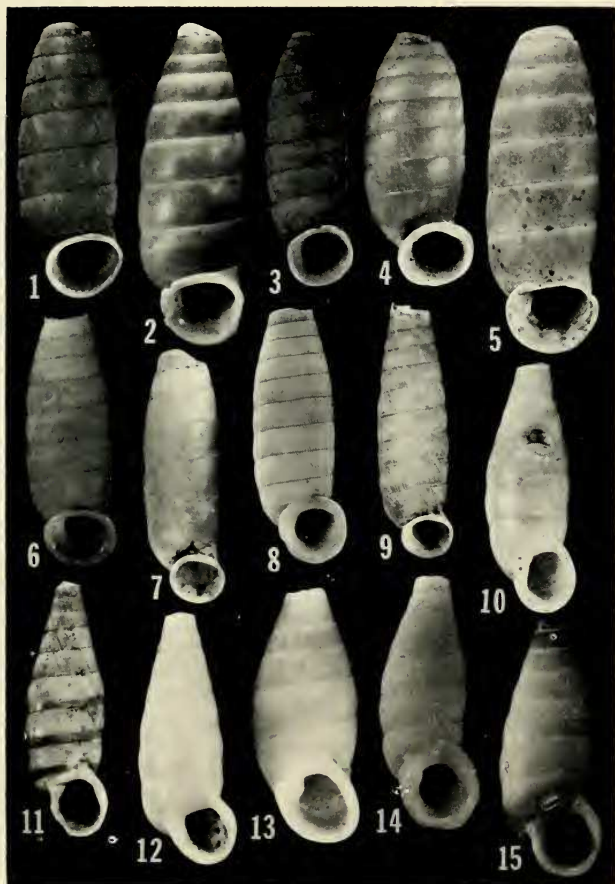


Plate 62

## Plate 63

- Fig. 1. *Cylindrella maugeri albida* Adams. Lectotype, here selected, MCZ 150904 (6.4 mm wd  $\times$  18.8 mm ht).
- Fig. 2. *Cylindrella maugeri bicincta* Adams. Westmoreland. Lectotype, here selected, MCZ 155858 (6.7 mm wd  $\times$  18.4 mm ht).
- Fig. 3. *Cylindrella maugeri citrina* Adams. Manchester. Lectotype, here selected, MCZ 155852 (7.3 mm wd  $\times$  20.2 mm ht).
- Fig. 4. *Cylindrella maugeri concinna* Adams. Whitney River estate, east part of Manchester. Lectotype, here selected, MCZ 155857 (5.3 mm wd  $\times$  14.1 mm ht).
- Fig. 5. *Cylindrella maugeri conica* Adams. Lectotype, here selected, MCZ 155873 (6.5 mm wd  $\times$  17.4 mm ht).
- Fig. 6. *Cylindrella maugeri levis* Adams. Kilmarnock, Westmoreland. Lectotype, here selected, MCZ 155859 (6.9 mm wd  $\times$  19.8 mm ht).
- Fig. 7. *Cylindrella maugeri nigrescens* Adams. Portland, and Man-chioneal, St. Thomas-in-the-East. Lectotype, here selected, MCZ 155845 (6.7 mm wd  $\times$  18.6 mm ht).
- Fig. 8. *Cylindrella maugeri rufilabris* Adams. Portland. Lectotype, here selected, MCZ 155840 (6.9 mm wd  $\times$  19.7 mm ht).
- Fig. 9. *Cylindrella maugeri sinuata* Adams. East part of Portland. Lectotype, here selected, MCZ 155867 (6.1 mm wd  $\times$  20.0 mm ht).
- Fig. 10. *Cylindrella maugeri tricolor* Adams. Near Peace River, Manchester. Lectotype, here selected, MCZ 155856 (7.2 mm wd  $\times$  20.2 mm ht).
- Fig. 11. *Succinea latior* Adams. Holotype, MCZ 247408 (9.3 mm wd  $\times$  4.2 mm ht).
- Fig. 12. *Succinea contorta* Adams. Holotype, MCZ 156464 (4.2 mm wd  $\times$  5.7 mm ht).
- Fig. 13. *Succinea angustior* Adams. Lectotype, here selected, MCZ 156467 (5.0 mm wd  $\times$  9.0 mm ht).

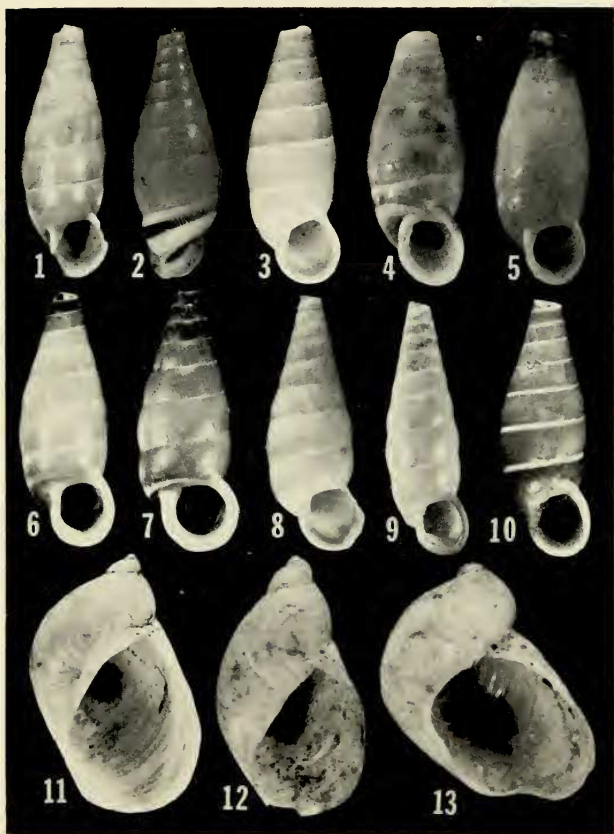


Plate 63

## Plate 64

Figs. 1-3. *Helix alligans* Adams. Lectotype, here selected, MCZ 156091 (30.85 mm wd  $\times$  26.7 mm ht).

Figs. 4-6. *Helix alveus* Adams. Holotype, MCZ 275768 (7.9 mm wd  $\times$  4.7 mm ht).

Figs. 7, 8. *Helix osculans delaminata* Adams. Lectotype, here selected, MCZ 275790 (10.2 mm wd  $\times$  5.3 mm ht).

Figs. 9, 12. *Helix connectens* Adams. Lectotype, here selected, MCZ 275765 (25.3 mm wd  $\times$  17.1 mm ht).

Figs. 10, 11. *Helix epistylum delaminata* Adams. Easington, St. David [= St. Thomas]. Lectotype, here selected, MCZ 275764 (13.4 mm wd  $\times$  11.2 mm ht).

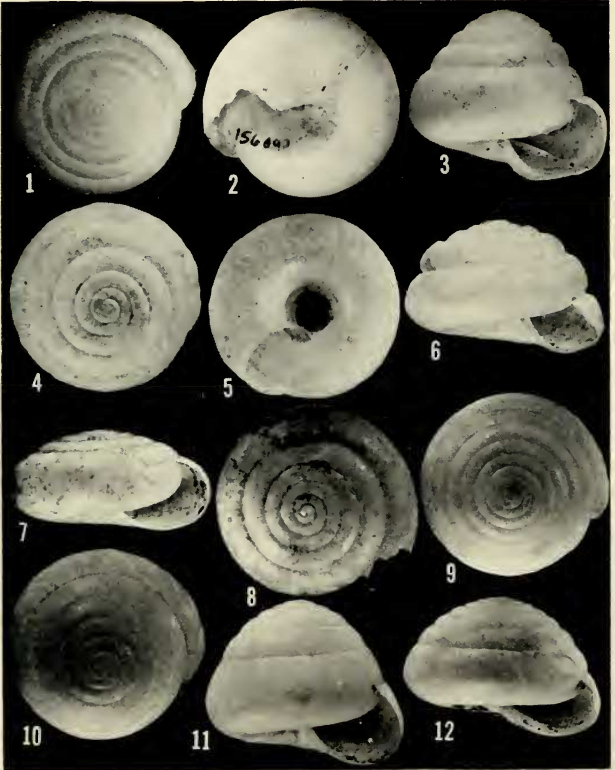


Plate 64

## Plate 65

Figs. 1, 2. *Helix epistyliulum* Adams. Lectotype, here selected, MCZ 254708 (4.4 mm wd  $\times$  3.8 mm ht).

Figs. 3, 4. *Helix foremaniana* Adams. Lectotype, here selected, MCZ 275770 (19.2 mm wd  $\times$  20.5 mm ht).

Figs. 5-7. *Helix jayana* Adams. Lectotype, here selected, MCZ 275774 (26.1 mm wd  $\times$  23.1 mm ht).

Figs. 8, 9. *Helix epistylium minor* Adams. Westmoreland. Lectotype, here selected, MCZ 275785 (12.35 mm wd  $\times$  10.1 mm ht).

Figs. 10, 11. *Helix pila* Adams. Lectotype, here selected. MCZ 275786 (14.4 mm wd  $\times$  13.2 mm ht).





Plate 65

## Plate 66

Figs. 1, 2. *Helix torrefacta* Adams. Lectotype, here selected, MCZ 275759 (17.8 mm wd  $\times$  10.9 mm ht).

Figs. 3, 4. *Helix propenuda* Adams. Lectotype, here selected, MCZ 155784 (21.8 mm wd  $\times$  13.0 mm ht).

Figs. 5-7. *Helix strangulata* Adams. [St. David.] Lectotype, here selected, MCZ 155791 (24.0 mm wd  $\times$  15.8 mm ht).

Figs. 8-10. *Helix swainsoniana* Adams. Westmoreland. Lectotype, here selected, MCZ 155797).

Figs. 11-13. *Helix valida* Adams. Lectotype, here selected, MCZ 150818 (32.8 mm  $\times$  19.3 mm ht).



Plate 66

## Plate 67

Figs. 1-3. *Helix fortis* Adams. Lectotype, here selected, MCZ 156109 (36.0 mm wd  $\times$  17.7 mm ht).

Figs. 4-7. *Helix anomala convexa* Adams. Borders of Manchester and St. Elizabeth, Jamaica. Lectotype, here selected, MCZ 154628 (25.9 mm wd  $\times$  13.3 mm ht).

Figs. 8-10. *Helix anomala pallescens* Adams. Accompong Town, St. Elizabeth, Jamaica. Lectotype, here selected, MCZ 155778 (27.2 wd  $\times$  14.6 mm ht).

Figs. 11-13. *Helix invalida* Adams. Lectotype, here selected, MCZ 155772 (19.3 mm wd  $\times$  11.3 mm ht).



Plate 67

## Plate 68

- Fig. 1. *Helix anomala pallescens* Adams. Accompong Town, St. Elizabeth, Jamaica. Lectotype, here selected, MCZ 155778 (27.2 mm wd  $\times$  14.6 mm ht).
- Figs. 2-4. *Helix consanguinea carinata* Adams. Belle Isle, Westmoreland, Jamaica. Lectotype, here selected, MCZ 154627 (31.3 mm wd  $\times$  14.5 mm ht).
- Figs. 5-7. *Helix consanguinea* Adams. Portland, Jamaica. Lectotype, here selected, MCZ 155774 (28.8 mm wd  $\times$  13.7 mm ht).
- Figs. 8-10. *Helix consanguinea imperforata* Adams. Swift River head, St. George, Jamaica. Lectotype, here selected, MCZ 155776 (30.6 mm wd  $\times$  15.5 mm ht).
- Figs. 11-13. *Helix candescens* Adams. Lectotype, here selected, MCZ 155775 (20.0 mm wd  $\times$  10.7 mm ht).



Plate 68

Plate 69

Figs. 1-3. *Helix ingens indigna* Adams. Lectotype, here selected, MCZ 156136 (6.1 mm wd  $\times$  29.6 mm ht).

Figs. 4-6. *Helix ingens imperforata* Adams. Lectotype, here selected, MCZ 156105 (72.7 mm wd  $\times$  33.2 ht).

Figs. 7-9. *Helix ingens* Adams. Lectotype, here selected, MCZ 156102 (71.8 mm wd  $\times$  33.9 mm ht).

Figs. 10-12. *Helix cara media* Adams. Lectotype, here selected, MCZ 275807 (29.9 mm wd  $\times$  13.5 mm ht).





Plate 69

## Plate 70

Figs. 1-3. *Helix cara* Adams. Lectotype, here selected, MCZ 155803 (35.7 mm wd  $\times$  13.5 mm ht).

Figs. 4-6. *Helix chittyana* Adams. Lectotype, here selected, MCZ 275818 (29.2 mm wd  $\times$  14.1 mm ht).

Figs. 7-9. *Helix fluctuata* Adams. Holotype, MCZ 156134 (55.3 mm wd  $\times$  22.5 mm ht).

Figs. 10-12. *Helix fuscolabris* Adams. [Westmoreland.] Lectotype, here selected, MCZ 275881 (37.9 mm wd  $\times$  20.3 mm ht).



Plate 70

## Plate 71

Figs. 1-3. *Helix patina* Adams. Lectotype, here selected, MCZ 156090 (58.3 mm wd  $\times$  27.3 mm ht).

Figs. 4-6. *Helix peracutissima* Adams. Holotype, MCZ 156113 (40.8 mm wd  $\times$  15.3 mm ht).

Figs. 7-9. *Helix bainbridgei pretiosa* Adams. Lectotype, here selected, MCZ 156106 (52.0 mm wd  $\times$  35.7 mm ht).

Figs. 10, 11. *Prosperpina pisum* Adams. Lectotype, here selected, MCZ 177263 (6.1 mm wd, 5.6 mm ht).



Plate 71

## Plate 72

Figs. 1, 2. *Helix buddiana* Adams. Westmoreland, Jamaica. Holotype, MCZ 275864 (15.6 mm wd  $\times$  12.6 mm ht).

Figs. 3, 4. *Helix columellata* Adams. Lectotype, here selected, MCZ 275875 (16.2 mm wd  $\times$  12.6 mm ht).

Figs. 5, 6. *Helix munda* Adams. Lectotype, here selected, MCZ 275773 (16.3 mm wd  $\times$  12.0 mm ht).

Figs. 7, 8. *Helix macmurrayi* Adams. Lectotype, here selected, MCZ 222335 (39.2 mm wd  $\times$  33.3 mm ht).

Figs. 9, 10. *Helix tunicata* Adams. Lectotype, here selected, MCZ 275806 (29.7 mm wd  $\times$  27.1 mm ht).

Figs. 11, 12. *Helix tenerrima* Adams. Lectotype, here selected, MCZ 222184 (19.5 mm wd  $\times$  16.5 mm ht).



Plate 72

## Plate 73

Figs. 1, 2. *Helix graminicola* Adams. Lectotype, here selected, MCZ 186501 (15.2 mm wd  $\times$  11.3 mm ht).

Figs. 3, 4. *Helix fuscocincta* Adams. Lectotype, here selected, MCZ 186482 (20.6 mm wd  $\times$  22.7 mm ht).

Figs. 5, 6. *Helix blandiana* Adams. Lectotype, here selected, MCZ 186489 (18.5 mm wd  $\times$  10.3 mm ht).

Figs. 7, 8. *Helix nemoraloides* Adams. Lectotype, here selected, MCZ 186497 (18.0 mm wd  $\times$  13.95 mm ht).

Figs. 9, 10. *Helix pulchrior* Adams. Portland, Jamaica. Lectotype, here selected, MCZ 186487 (17.9 mm wd  $\times$  13.8 mm ht).

Figs. 11, 12. *Helix subconica* Adams. Lectotype, here selected, MCZ 186485 (21.1 mm wd  $\times$  14.4 mm ht).





Plate 73

## Plate 74

Figs. 1, 2. *Helix ambigua* Adams. Lectotype, here selected, MCZ 275778 (16.2 mm wd  $\times$  9.8 mm ht).

Figs. 3, 4. *Helix arboreoides* Adams. Lectotype, here selected, MCZ 177306 (14.4 mm wd  $\times$  8.0 mm ht).

Figs. 5-7. *Helix hollandi* Adams. Lectotype, here selected, MCZ 275770 (11.2 mm wd  $\times$  6.2 mm ht).

Figs. 8, 10. *Helix virginea* Adams. Lectotype, here selected, MCZ 186490 (20.0 mm wd  $\times$  14.8 mm ht).

Figs. 9, 11. *Helix osculans* Adams. Lectotype, here selected, MCZ 17816 (9.3 mm wd  $\times$  4.6 mm ht).



Plate 74

## Plate 75

Figs. 1, 2. *Trochatella pulchella multicarinata* Adams. Portland, Jamaica. Lectotype, here selected, MCZ 222609 (9.1 mm wd  $\times$  7.8 mm ht).

Figs. 3, 4. *Helicina josephinae* Adams. Lectotype, selected by Clench and Jacobson, 1970, Occ. Paps. Moll., 3: 71. MCZ 222614 (11.7 mm wd  $\times$  7.4 mm ht).

Figs. 5, and the adjacent unnumbered figure. *Trochatella josephinae pulchra* Adams. Jamaica western part of island. Lectotype, selected by Clench and Jacobson, 1970, Occ. Paps. Moll., 3: 71. MCZ 222616 (13.1 mm wd  $\times$  8.8 mm ht).

Figs. 6, 7. *Trochatella pulchella nobilis* Adams. New Hope, Westmoreland, Jamaica. Lectotype, here selected, MCZ 222590 (12.9 mm wd  $\times$  12.0 mm ht).

Figs. 8, 9. *Helicina palliata* Adams. Lectotype, here selected, MCZ 186261 (16.1 mm wd  $\times$  12.5 mm ht).

Figs. 10-12. *Helicina palliata labiosa* Adams. Bethany, Marlboro, Maidstone, Manchester, Jamaica. Lectotype, here selected, MCZ 186263 (15.0 mm wd  $\times$  12.0 mm ht).

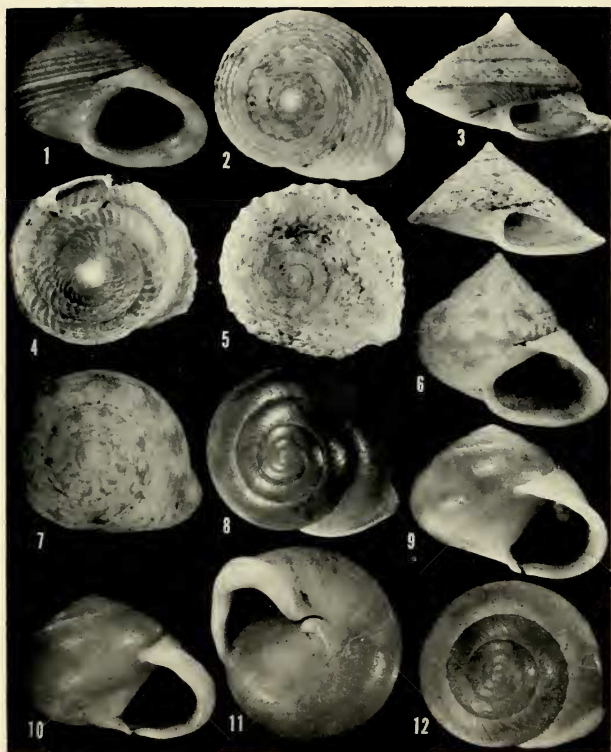


Plate 75

## Plate 76

Figs. 1, 2. *Helicina maxima citrina* Adams. Lectotype, here selected, MCZ 224205 (21.5 mm wd  $\times$  15.5 mm ht).

Figs. 3, 4. *Helicina neritella angulata* Adams. [Savanna la Mar.] Lectotype, here selected, MCZ 275701 (11.8 mm wd  $\times$  8.7 mm ht).

Figs. 5-7. *Helicina ampliata* Adams. Lectotype, here selected, MCZ 279743 (16.9 mm wd  $\times$  15.5 mm ht).

Figs. 8, 9. *Helicina albolabris* Adams. Lectotype, here selected, MCZ 224182 (15.0 mm wd  $\times$  10.9 mm ht).

Figs. 10-12. *Helicina affinis* Adams. Lectotype, here selected, MCZ 279744 (8.9 mm wd  $\times$  8.0 mm ht).

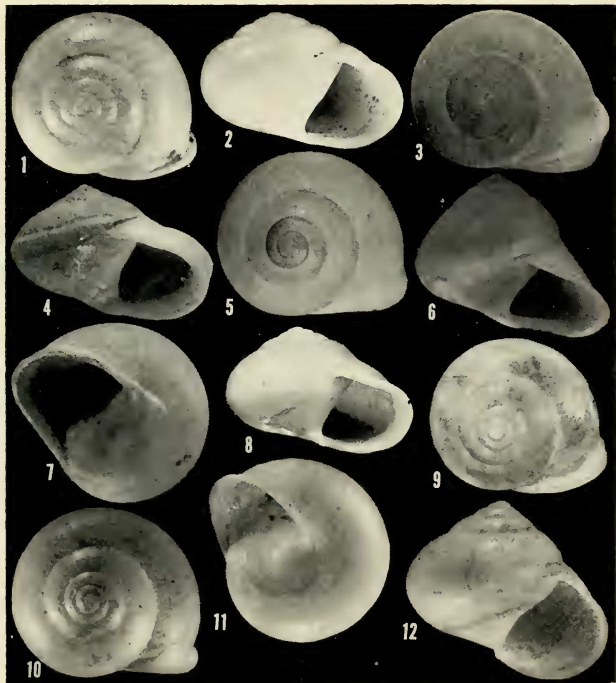


Plate 76

## Plate 77

Figs. 1, 2. *Helicina citrina-labris* Adams. Lectotype, here selected, MCZ 224186 (15.8 mm wd  $\times$  11.8 mm ht).

Figs. 3, 4. *Helicina consanguinea* Adams. Lectotype, here selected. MCZ 224166 (13.8 mm wd  $\times$  11.4 mm ht).

Figs. 5, 6. *Helicina dubiosa* Adams. Lectotype, here selected, MCZ 275696 (7.1 mm wd  $\times$  5.6 mm ht).

Figs. 7, 8. *Helicina hirsuta* Adams. Lectotype, here selected, MCZ 224163 (11.7 mm wd  $\times$  7.4 mm ht).

Figs. 9, 10. *Helicina microstoma* Adams. Lectotype, here selected, MCZ 224 178 (20.5 mm wd  $\times$  14.6 mm ht).

Figs. 11, 12. *Helicina nobilis* Adams. Lectotype, here selected, MCZ 224202 (20.5 mm wd  $\times$  14.6 mm ht).





Plate 77

## Plate 78

Figs. 1, 2. *Helicina solitaria* Adams. Lectotype, here selected, MCZ 275695 (8.9 mm  $\times$  6.0 mm ht).

Figs. 3-5. *Helicina macilenta* Adams. Lectotype, here selected, MCZ 279745 (8.0 mm wd  $\times$  4.5 mm ht).

Figs. 6-8. *Helix spreta* Adams. Lectotype, here selected, MCZ 248222 (6.8 mm wd  $\times$  4.7 mm ht).

Figs. 9, 10. *Helix subpyramidalis* Adams. Lectotype, here selected, MCZ 247893 (7.9 mm wd  $\times$  5.2 mm ht).

Figs. 11, 12. *Helix opalina* Adams. Lectotype, here selected, MCZ 247210 (7.4 mm wd  $\times$  3.5 mm ht).

Figs. 13, 14. *Helix depressa* Adams (= *brevior* Adams). Lectotype, here selected, MCZ 275852 (6.2 mm wd  $\times$  2.8 mm ht).

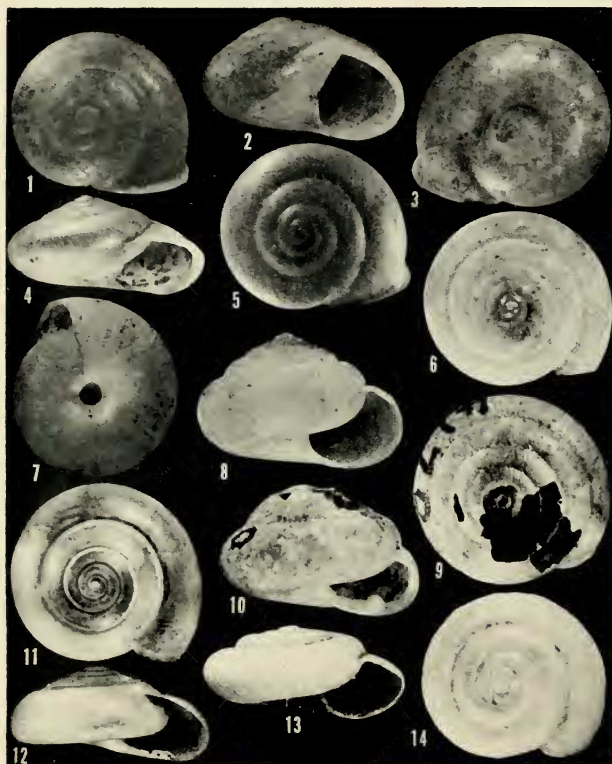


Plate 78

## Plate 79

- Fig. 1. *Achatina angustoma* Adams. Lectotype, here selected, MCZ 275867 (5.8 mm wd  $\times$  6.8 mm ht).
- Fig. 2. *Achatina blandiana* Adams. Lectotype, here selected, MCZ 275850 (3.1 mm wd  $\times$  10.7 mm ht).
- Fig. 3. *Achatina elegans* Adams. Lectotype, here selected, MCZ 275933 (7.4 mm wd  $\times$  18.3 mm ht).
- Fig. 4. *Achatina gayana* Adams. Lectotype, here selected, MCZ 275890 (7.1 mm wd  $\times$  20.6 mm ht).
- Fig. 5. *Achatina griffithsii* Adams. Lectotype, here selected, MCZ 275897 (6.7 mm wd  $\times$  20.1 mm ht).
- Fig. 6. *Achatina ingallsiana* Adams. Lectotype, here selected, MCZ 275892 (5.8 mm wd  $\times$  16.3 mm ht).
- Fig. 7. *Achatina ligata* Adams. Lectotype, here selected, MCZ 275838 (6.4 mm wd  $\times$  20.5 mm ht).
- Fig. 8. *Achatina nitida* Adams. Lectotype, here selected, MCZ 275883 (8.4 mm wd  $\times$  24.7 mm ht).
- Fig. 9. *Achatina nemorensis* Adams. Lectotype, here selected, MCZ 275854 (6.0 mm wd  $\times$  19.0 mm ht).
- Fig. 10. *Achatina phillipsii* Adams. Lectotype, here selected, MCZ 275868 (5.6 mm wd  $\times$  17.4 mm ht).
- Fig. 11. *Achatina procera* Adams. Lectotype, here selected, MCZ 275861 (9.4 mm wd  $\times$  27.2 mm ht).
- Fig. 12. *Achatina similis* Adams. Lectotype, here selected, MCZ 233895 (6.1 mm wd  $\times$  24.2 mm ht).
- Fig. 13. *Achatina propinqua* Adams. Lectotype, here selected, MCZ 156361 (3.1 mm wd  $\times$  12.2 mm ht).
- Fig. 14. *Achatina unicolor* Adams. Lectotype, here selected, MCZ 275900 (5.8 mm wd  $\times$  17.1 mm ht).
- Fig. 15. *Achatina vicina* Adams. Lectotype, here selected, MCZ 275893 (3.7 mm wd  $\times$  11.7 mm ht).

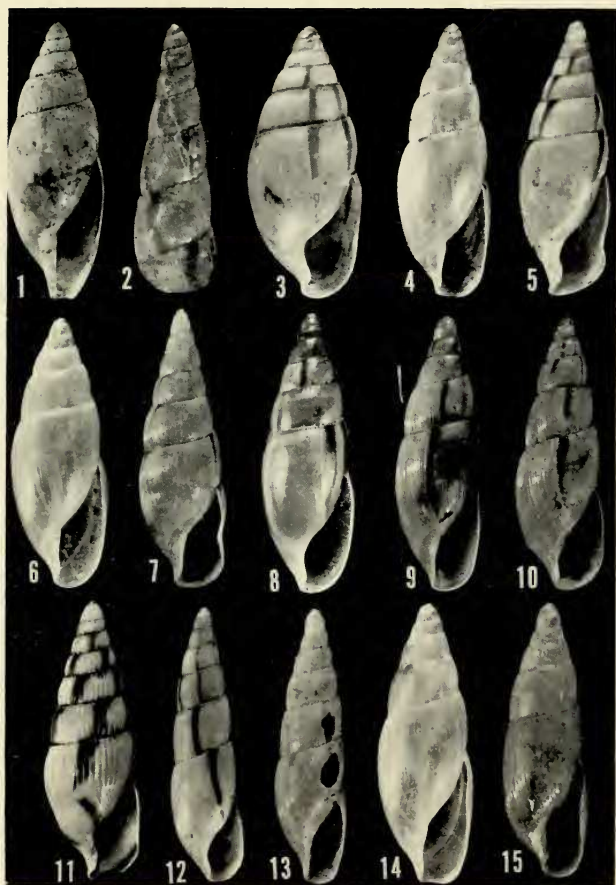


Plate 79

## Plate 80

- Fig. 1. *Achatina costulata* Adams. Lectotype, here selected, MCZ 233886 (2.8 mm wd  $\times$  10.6 mm ht).
- Fig. 2. *Achatina puella* Adams. Lectotype, here selected, MCZ 275863 (3.3 mm wd  $\times$  13.0 mm ht).
- Fig. 3. *Achatina proxima* Adams. Near Swift River head, Portland, Jamaica. Lectotype, here selected, MCZ 275829 (3.0 mm wd  $\times$  12.2 mm ht).
- Fig. 4. *Achatina costulosa* Adams. Lectotype, here selected, MCZ 275847 (6.5 mm wd  $\times$  22.4 mm ht).
- Fig. 5. *Achatina gracilior* Adams. Lectotype, here selected, MCZ 156174 (2.0 mm wd  $\times$  11.2 mm ht).
- Fig. 6. *Achatina micans* Adams. Holotype, MCZ 164787 (2.7 mm wd  $\times$  9.5 mm ht).
- Fig. 7. *Achatina iota* Adams. Lectotype, here selected, MCZ 254707 (.62 mm wd  $\times$  2.6 mm ht).
- Fig. 8. *Achatina levis* Adams. Holotype, MCZ 275886 (2.5 mm wd  $\times$  11.0 mm ht).
- Fig. 9. *Achatina longispira* Adams. Lectotype, here selected, MCZ 276091 (1.9 mm wd  $\times$  7.8 mm ht).
- Fig. 10. *Achatina perplexa* Adams. Lectotype, here selected, MCZ 275874 (2.3 mm wd  $\times$  8.5 mm ht).
- Fig. 11. *Achatina pellucens* Adams. Holotype, MCZ 275884 (1.6 mm wd  $\times$  6.5 mm ht).
- Fig. 12. *Achatina striosa* Adams. Lectotype, here selected, MCZ 275848 (2.6 mm wd  $\times$  8.7 mm ht).
- Fig. 13. *Achatina inusitata* Adams. Lectotype, here selected, MCZ 275826 (1.1 mm wd  $\times$  3.1 mm ht).
- Fig. 14. *Achatina tenera* Adams. Holotype, MCZ 275896 (1.8 mm wd  $\times$  7.5 mm ht).
- Fig. 15. *Bulimus laeviusculus* Adams. Lectotype, here selected, MCZ 275918 (1.2 mm wd  $\times$  8.5 mm ht).
- Fig. 16. *Bulimus terebella* Adams. Holotype MCZ 155963 (1.7 mm wd  $\times$  7.7 mm ht).
- Fig. 17. *Bulimus hortensis* Adams. Lectotype, here selected, MCZ 276005 (2.7 mm wd  $\times$  9.7 mm ht).
- Fig. 18. *Bulimus anomalus* Adams. Lectotype, here selected, MCZ 275825 (2.0 mm wd  $\times$  7.9 mm ht).

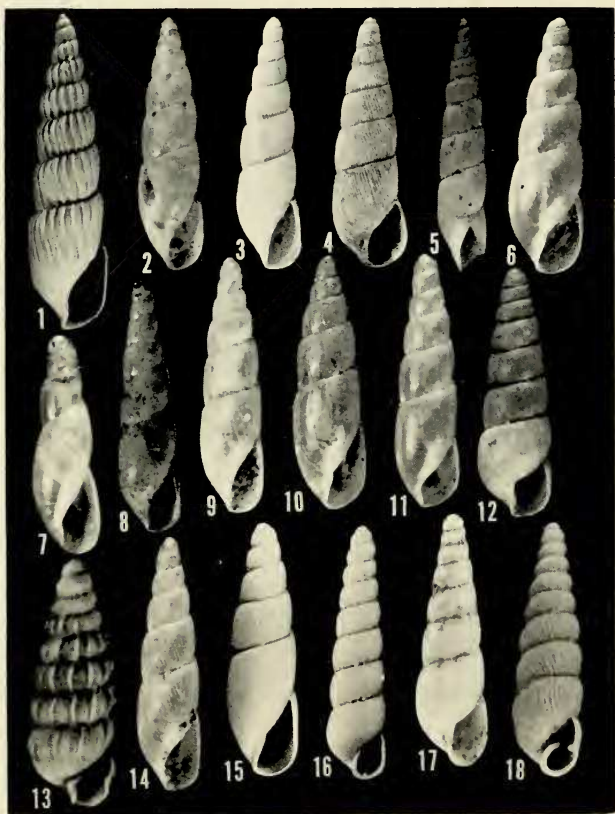


Plate 80

## Plate 81

- Fig. 1. *Geomelania affinis* Adams. Lectotype, selected by Clench & Turner 1948, p. 194, MCZ 177212 (3.6 mm wd  $\times$  12.1 mm ht).
- Fig. 2. *Geomelania elegans* Adams. Lectotype, selected by Clench & Turner 1948, p. 199, MCZ 177222 (1.8 mm wd  $\times$  7.4 mm ht).
- Fig. 3. *Geomelania expansa* Adams. Lectotype, selected by Clench & Turner 1948, p. 199, MCZ 177209 (4.0 mm wd  $\times$  13.5 mm ht).
- Fig. 4. *Geomelania fortis* Adams. Lectotype, selected by Clench & Turner 1948, p. 199, MCZ 177214 (4.5 mm wd  $\times$  14.4 mm ht).
- Fig. 5. *Geomelania gracilis* Adams. Lectotype, selected by Clench & Turner 1948, p. 200, MCZ 177223 (3.2 mm wd  $\times$  12.7 mm ht).
- Fig. 6. *Geomelania typica* Adams. Lectotype, selected by Clench & Turner 1948, p. 209, MCZ 177208 (3.0 mm wd  $\times$  10.8 mm ht).
- Fig. 7. *Geomelania magna* Adams. Lectotype, selected by Clench & Turner 1948, p. 202, MCZ 177200 (4.5 mm wd  $\times$  15.8 mm ht).
- Fig. 8. *Geomelania media* Adams. Lectotype, selected by Clench & Turner 1948, p. 202, MCZ 177213 (2.9 mm wd  $\times$  11.2 mm ht).
- Fig. 9. *Geomelania minor* Adams. Lectotype, here selected, MCZ 177207 (3.0 mm wd  $\times$  9.3 mm ht).
- Fig. 10. *Geomelania gracilis parva* Adams. Lectotype, here selected, MCZ 177211 (2.7 mm wd  $\times$  9.4 mm ht).
- Fig. 11. *Cylindrella beardslana* Adams. Lectotype, selected by Clench & Turner 1948, p. 195, MCZ 177244 (7.5 mm ht).
- Fig. 12. *Geomelania vicina* Adams. Lectotype, selected by Clench & Turner 1948, p. 209, MCZ 156153 (2.6 mm wd  $\times$  9.0 mm ht).
- Fig. 13. *Bulimus octonoides* Adams. Lectotype, here selected, MCZ 156175 (2.4 mm wd  $\times$  7.8 mm ht).
- Fig. 14. *Bulimus mirabilis* Adams. Lectotype, here selected, MCZ 177269 (1.3 mm wd  $\times$  3.2 mm ht).
- Fig. 15. *Bulimus nitidiusculus* Adams. Lectotype, here selected, MCZ 275834 (2.5 mm wd  $\times$  6.2 mm ht).
- Fig. 16. *Bulimus pallidus* Adams. Lectotype, here selected, MCZ 156357 (2.5 mm wd  $\times$  4.1 mm ht).
- Fig. 17. *Bulimus monodon* Adams. Lectotype, here selected, MCZ 276001 (3.8 mm wd  $\times$  6.6 mm ht).





Plate 81

## Plate 82

Figs. 1, 2. *Helicina megastoma* Adams. Lectotype, here selected, MCZ 275691 (8.0 mm wd  $\times$  6.9 mm ht).

Fig. 3. *Pupa fusiformis* Adams. Holotype, MCZ 155842 (6.2 mm wd  $\times$  20.3 mm ht).

Fig. 4. *Cyclostoma jayanum* Adams. Lectotype, here selected, MCZ 275979 (11.5 mm wd  $\times$  21.0 mm ht).

Fig. 5. *Pupa rubella* Adams. Lectotype, here selected, MCZ 275880 (7.1 mm wd  $\times$  5.5 mm ht).

Fig. 6. *Cylindrella maugeri tessellata* Adams. St. Elizabeth, Jamaica. Lectotype, here selected, MCZ 155861 (6.1 mm wd  $\times$  20.0 mm ht).

Fig. 7. *Cylindrella carnea* Adams (new name for *rosea* Adams 1849, non Pfeiffer, 1844).

Fig. 8. *Pupa nobilior* Adams. Lectotype, here selected, MCZ 275907 (9.6 mm wd  $\times$  29.7 mm ht).

Fig. 9. *Pupa jamaicensis* Adams. Lectotype, here selected, MCZ 275803 (1.7 mm wd  $\times$  1.7 mm ht).

Fig. 10. *Pupa tenuidens* Adams. Lectotype, here selected, MCZ 276000 (1.5 mm wd  $\times$  1.7 mm ht).

Fig. 11. *Pupa hexodon* Adams. Lectotype, here selected, MCZ 275831 (1.4 mm wd  $\times$  2.2 mm ht).

Fig. 12. *Pupa exilis* Adams. Lectotype, here selected, MCZ 275837 (0.9 mm wd  $\times$  2.1 mm ht).

Fig. 13. *Cylindrella costulata* Adams. Lectotype, here selected, MCZ 260838 (2.1 mm wd  $\times$  6.5 mm ht).

Fig. 14. *Pupa obesa* Adams. Lectotype, here selected, MCZ 275904 (5.8 mm wd  $\times$  14.3 mm ht).



Plate 82

## Plate 83

Figs. 1-3. *Helix picturata* Adams. Lectotype, here selected, MCZ 155785 (25.1 mm wd  $\times$  14.0 mm ht).

Figs. 4-6. *Helix amabilis* Adams. Lectotype, here selected, ANSP 9013 ex Swift collection (28.8 mm wd  $\times$  12.1 mm ht).

Figs. 7-9. *Helix anthoniana* Adams. Lectotype, here selected, MCZ 275870 (10.4 mm wd  $\times$  8.5 mm ht).

Figs. 10-12. *Helix inconspicua* Adams. Lectotype, here selected, MCZ 275866 (4.24 mm wd  $\times$  2.2 mm ht).

Figs. 13, 14. *Helix brevis* Adams. Lectotype, here selected, MCZ 275855 (4.2 mm wd  $\times$  2.4 mm ht).

Figs. 15, 16. *Helix sincera* Adams. Lectotype, here selected, MCZ 275869 (4.0 mm wd  $\times$  1.9 mm ht).

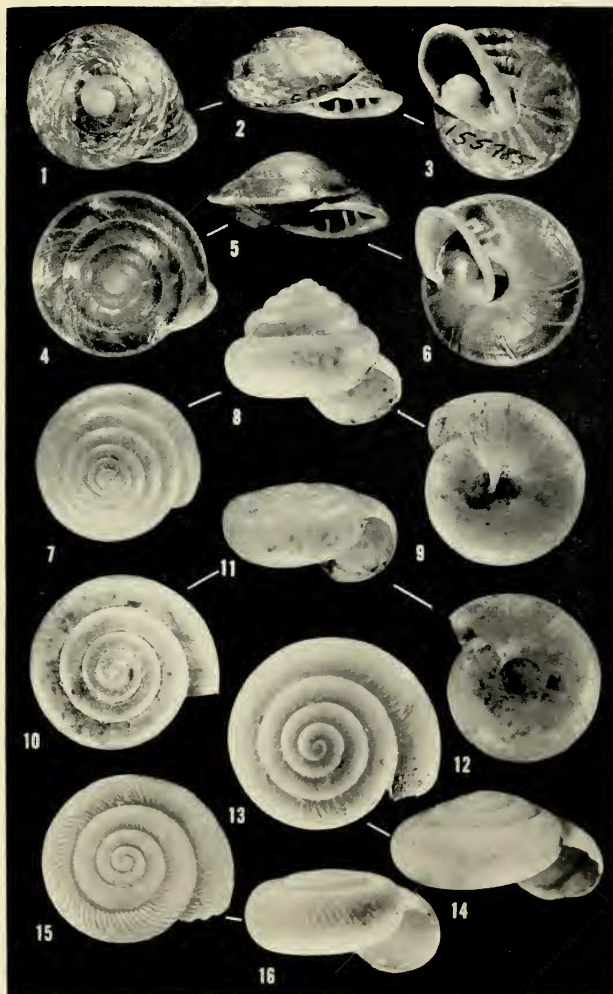


Plate 83

## Plate 84

Figs. 1-3. *Lucidella aureola granulosa* Adams. Lectotype, here selected, MCZ 156170 (7.7 mm wd  $\times$  5.7 mm ht).

Figs. 4-6. *Helix lamellifera* Adams. Lectotype, here selected, ANSP 28225 (11.5 mm wd  $\times$  8.6 mm ht).

Figs. 7, 8. *Helix peraffinis* Adams. Lectotype, here selected, MCZ 275771 (7.2 mm wd  $\times$  4.7 mm ht).

Figs. 9-11. *Helix immunda* Adams. [St. Elizabeth.] Lectotype, here selected, MCZ 275809 (12.6 mm wd  $\times$  7.1 mm ht).

Fig. 12. *Helix macmurrayi* Adams. Lectotype, here selected, MCZ 222335 (39.2 mm wd  $\times$  33.3 mm ht).

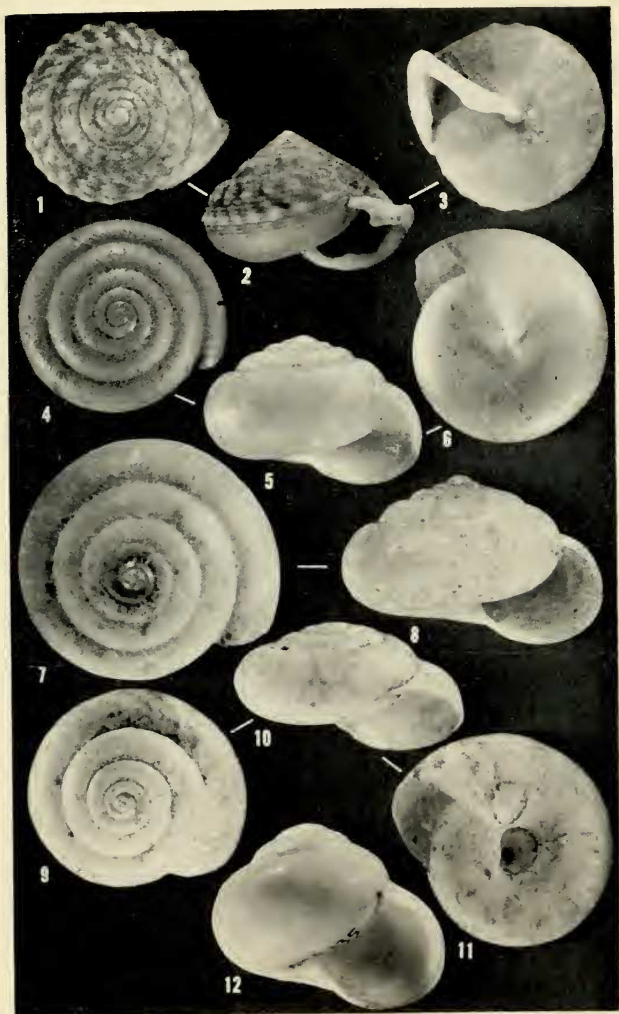


Plate 84

## Plate 85

Figs. 1, 2. *Proserpina bidentata* Adams. Holotype, MCZ 186126 (4.0 mm wd  $\times$  2.2 mm ht).

Figs. 3, 4. *Proserpina nitida planulata* Adams. Lectotype, here selected, MCZ 276092 (10.4 mm wd  $\times$  4.4 mm ht).

Figs. 5, 6. *Proserpina pulchra* Adams. [Westmoreland.] Lectotype, here selected, MCZ 275999 (5.5 mm wd  $\times$  3.5 mm ht).

Figs. 7-9. *Helix angustispira* Adams. Lectotype, here selected, MCZ 275782 (3.8 mm wd  $\times$  2.7 mm ht).

Figs. 10-12. *Helix diminuta* Adams. Lectotype, here selected, MCZ 275828 (2.5 mm wd  $\times$  1.2 mm ht).

Figs. 13-15. *Helix simulans* Adams. Lectotype, here selected, MCZ 11823 (2.5 mm wd  $\times$  1.7 mm ht).

Figs. 16-18. *Helix fuscula* Adams. Lectotype, here selected, MCZ 186018 (2.5 mm wd  $\times$  2.1 mm ht).

Figs. 19, 20. *Helix apex* Adams. Paralectotype, MCZ 275871 (2.1 mm wd  $\times$  0.9 mm ht).



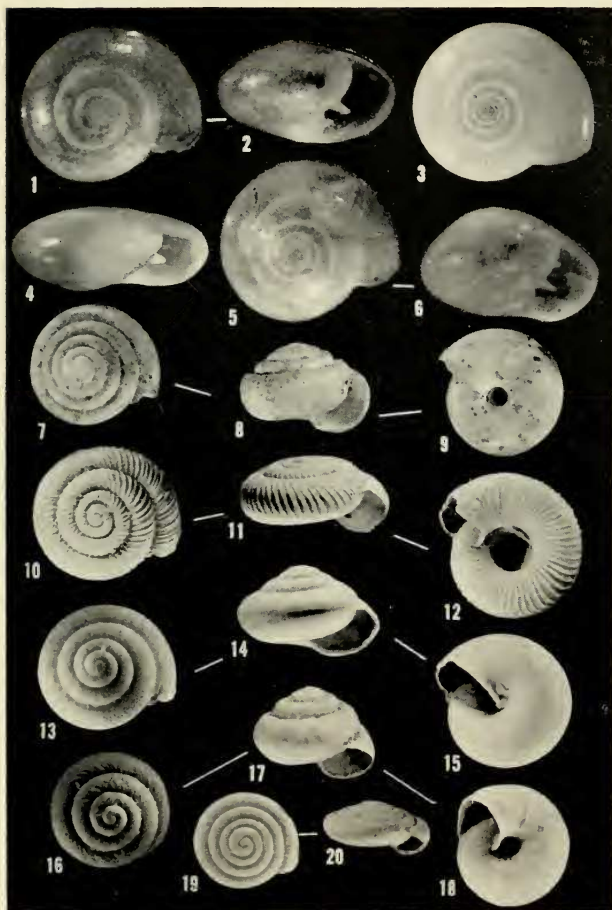


Plate 85

## Plate 86

- Figs. 1, 2. *Helicina dubiosa intermedia* Adams. Lectotype, here selected, MCZ 275692 (8.2 mm wd  $\times$  5.9 mm ht).
- Figs. 3, 4. *Helicina consanguinea soror* Adams. St. Thomas-in-the-East [= Portland]. Lectotype, here selected, MCZ 224175 (14.1 mm wd  $\times$  11.0 mm ht).
- Figs. 5, 6. *Helicina depressa valida* Adams. Lectotype, here selected, MCZ 275687 (8.2 mm wd  $\times$  4.9 mm ht).
- Figs. 7, 8. *Helicina pusilla* Adams. Holotype, MCZ 224199 (5.8 mm wd  $\times$  4.5 mm ht).
- Figs. 9-11. *Helicina lineata* Adams. Lectotype, here selected MCZ 177323 (4.2 mm wd  $\times$  2.7 mm ht).
- Figs. 12-14. *Proserpina discoidea* Adams. Lectotype, here selected, MCZ 247211 (6.5 mm wd  $\times$  2.7 mm ht).
- Fig. 15. *Cylindrella lata producta* Adams. Lectotype, here selected, ANSP 666 (8.4 mm wd  $\times$  29.1 mm ht).
- Fig. 16. *Cyclostoma pulchrius* Adams. Lectotype, here selected, MCZ 275715 (9.0 mm wd  $\times$  14.0 mm ht).
- Fig. 17. *Cylindrella maugeri cinerea* Adams. Accompong, borders of St. Elizabeth, St. James, and Trelawney. Lectotype, here selected, MCZ 155860 (6.0 mm wd  $\times$  17.2 mm ht).
- Fig. 18. *Cyclostoma decussatulum* Adams. Lectotype, here selected, MCZ 276010 (8.4 mm wd  $\times$  11.4 mm ht).
- Fig. 19. *Cylindrella princeps* Adams. Swift River head, St. George. Lectotype, here selected, MCZ 155881 (3.7 mm wd  $\times$  20.0 mm ht).



Plate 86

## Plate 87

Figs. 1-3. *Stoastoma wilkinsoniae* Adams. Lectotype, selected by Boss, 1972, MCZ 177251 (1.8 mm wd  $\times$  0.9 mm ht).

Figs. 4-6. *Stoastoma redfieldianum* Adams. Lectotype, here selected, MCZ 177252 (1.7 mm wd  $\times$  1.6 mm ht).

Figs. 7-9. *Stoastoma philippianum* Adams. Ackendown, Westmoreland. Lectotype, selected by Boss, 1972, MCZ 177241 (2.2 mm wd  $\times$  1.1 mm ht).

Figs. 10-12. *Stoastoma petitianum* Adams. Lectotype, selected by Boss, 1972, MCZ 177237 (1.7 mm wd  $\times$  1.1 mm ht).

Figs. 13-15. *Stoastoma cumingianum* Adams. Lectotype, selected by Boss, 1972, BMNH 57.12.1.229 (1.7 mm wd  $\times$  0.9 mm ht).

Figs. 16-18. *Stoastoma blandianum* Adams. Lectotype, selected by Boss, 1972, MCZ 177243 (1.3 mm wd  $\times$  0.7 mm ht).

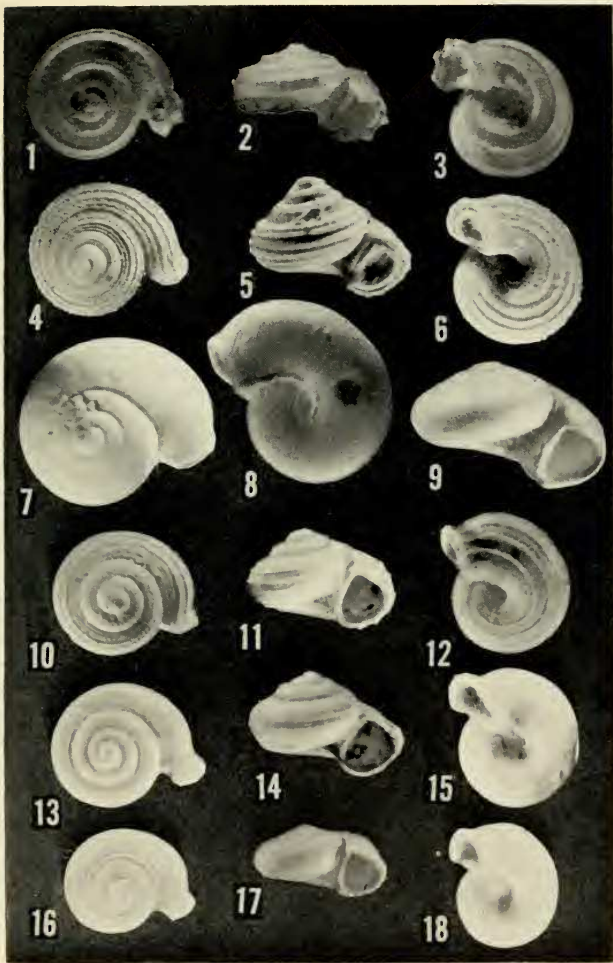


Plate 87

## Plate 88

Figs. 1-3. *Stoastoma gouldianum* Adams. Lectotype, here selected, MCZ 177240 (2.0 mm wd  $\times$  1.2 mm ht).

Figs. 4-6. *Stoastoma agassizianum* Adams. Lectotype, here selected, BMNH 54.4.24.473 (2.9 mm wd  $\times$  1.8 mm ht).

Figs. 7-9. *Stoastoma lindsleyanum* Adams. Lectotype, selected by Boss, 1972, MCZ 177238 (2.6 mm wd  $\times$  2.2 mm ht).

Figs. 10-12. *Stoastoma chittyannum* Adams. Lectotype, here selected, MCZ 177255 (2.2 mm wd  $\times$  1.2 mm ht).

Figs. 13-15. *Stoastoma tappanianum* Adams. Lectotype, here selected, MCZ 177257 (2.3 mm wd  $\times$  1.6 mm ht).

Figs. 16, 17. *Stoastoma pisum* Adams. Lectotype, selected by Boss, 1972, MCZ 177234 (3.7 mm wd  $\times$  3.3 mm ht).

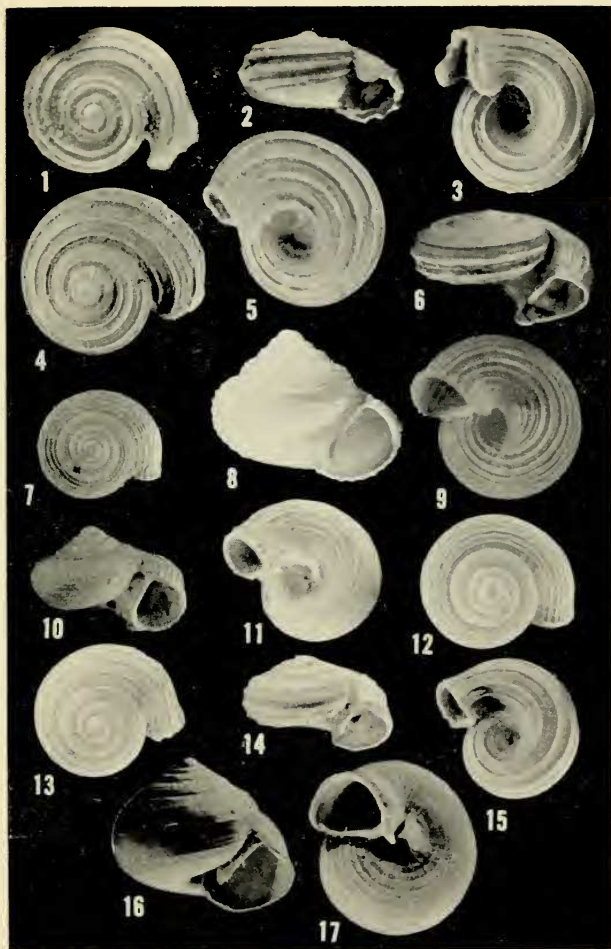


Plate 88

## Plate 89

Figs. 1-3. *Stoastoma jayanum* Adams. Lectotype, here selected, MCZ 177262 (2.2 mm wd  $\times$  2.1 mm ht).

Figs. 4-6. *Stoastoma anthonianum* Adams. Lectotype, here selected, MCZ 177254 (1.3 mm wd  $\times$  0.8 mm ht).

Figs. 7-9. *Stoastoma leanum* Adams. Lectotype, here selected, MCZ 177247 (1.8 mm wd  $\times$  1.9 mm ht).

Figs. 10-12. *Stoastoma pfeifferianum* Adams. Lectotype, here selected, MCZ 177258 (3.0 mm wd  $\times$  2.2 mm ht).

Figs. 13-15. *Stoastoma hollandianum* Adams. Lectotype, here selected, MCZ 177236 (1.7 mm wd  $\times$  1.2 mm ht).

Fig. 16. *Bulimus minimus* Adams. Lectotype, here selected, MCZ 276003 (paralectotype, MCZ 276004 (0.7 mm wd  $\times$  2.2 mm ht).

Figs. 17-18. *Helicina hollandi* Adams. Lectotype, here selected, MCZ 275698 (9.5 mm wd  $\times$  7.6 mm ht).



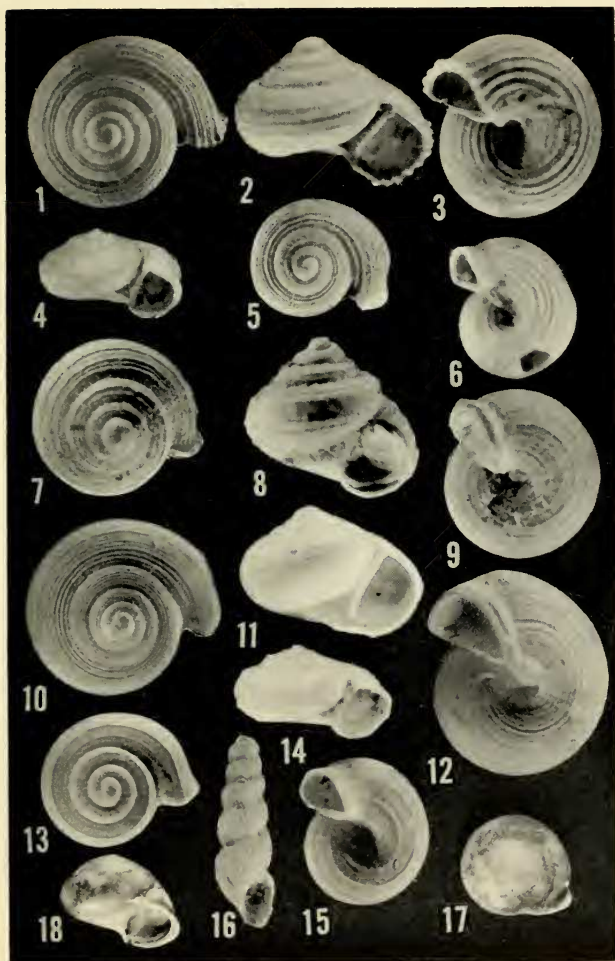


Plate 89

## Plate 90

- Figs. 1-3. *Stoastoma moricandianum* Adams. Lectotype, here selected, MCZ 177249 (1.9 mm wd  $\times$  2.2 mm ht).
- Fig. 4. *Geomelania procera* Adams. Lectotype, here selected, MCZ 177201 (3.9 mm wd  $\times$  5.4 mm ht).
- Figs. 5-7. *Stoastoma fadyenianum* Adams. Lectotype, selected by Boss, 1972, MCZ 177233 (2.1 mm wd  $\times$  1.7 mm ht).
- Figs. 8, 9. *Helicina tenuis* Adams. Lectotype, here selected, MCZ 186209 (2.4 wd  $\times$  2.0 ht).
- Fig. 10. *Pupa lata* Adams. Lectotype, here selected, MCZ 275833 (1.4 mm wd  $\times$  2.0 mm ht).
- Fig. 11. *Helix dioscoricola* Adams. Lectotype, here selected, MCZ 275929 (1.9 mm wd  $\times$  1.7 mm ht).
- Fig. 12. *Bulimus striatella* Adams. Lectotype, here selected, MCZ 233898 (1.4 mm wd  $\times$  4.9 mm ht).
- Fig. 13. *Bulimus pauperculus* Adams. Lectotype, here selected, MCZ 275927 (1.5 mm wd  $\times$  4.6 mm ht).
- Fig. 14. *Geomelania conica* Adams. Lectotype, here selected, MCZ 177205 (2.3 mm wd  $\times$  7.8 mm ht).
- Fig. 15. *Spiraxis costulosa* Adams. Lectotype, here selected, ANSP 24719 (0.7 mm wd  $\times$  3.1 mm ht).
- Fig. 16. *Cylindrella pygmaea* Adams. Lectotype, here selected, MCZ 156155 (4 mm wd  $\times$  1.0 mm ht).

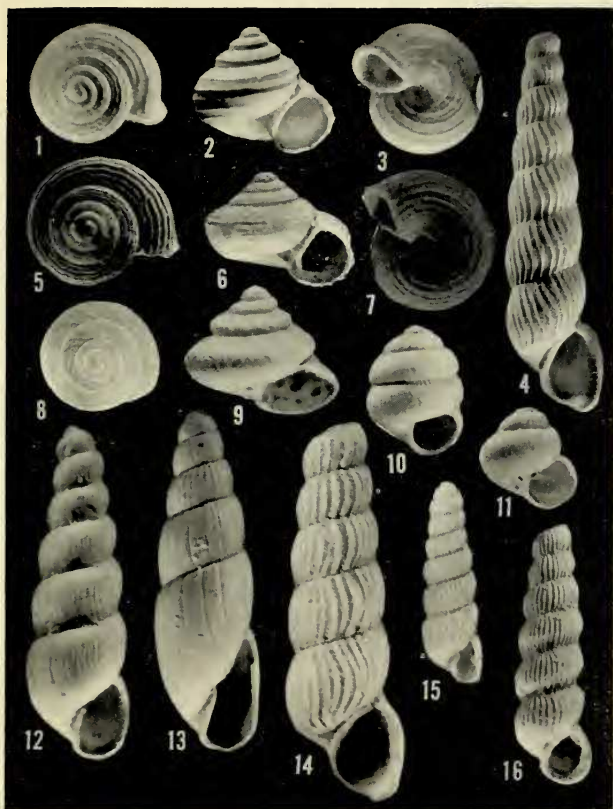


Plate 90

## Plate 91

Figs. 1, 2. *Geomelania striosa* Adams. Holotype, after Sykes 1925.

Figs. 3, 4. *Geomelania hillianum* Adams. Holotype, after Sykes 1925.

Figs. 5, 6. *Geomelania pyramidata* Adams. Lectotype, here selected, after Sykes 1925.

Figs. 7, 8. *Geomelania costulosa* Adams. Holotype, after Sykes 1925.

Figs. 9, 10. *Geomelania exilis* Adams. Holotype, after Sykes 1925.

Fig. 11. *Cyclostoma augustae* Adams. Lectotype, here selected, MCZ 186219 (14.2 mm wd  $\times$  23.2 mm ht).

Fig. 12. *Cyclostoma avena* Adams. Lectotype, here selected, MCZ 186217 (3.8 mm wd  $\times$  8.6 mm ht).

Fig. 13. *Cylindrella procera* Adams. Lectotype, here selected, MCZ 275906 (7.0 mm wd  $\times$  26.3 mm ht).

Fig. 14. *Cylindrella cylindrus* Adams. Lectotype, here selected, MCZ 155890 (3.4 mm wd  $\times$  20.2 mm ht).

Figs. 15, 16, 18. *Helix perdepressa* Adams. Lectotype, here selected, MCZ 275835 (8.2 mm wd  $\times$  2.6 mm ht).

Fig. 17. *Cyclostoma armatum* Adams. Lectotype, here selected, MCZ 186245 (8.2 mm wd  $\times$  15.6 mm ht).

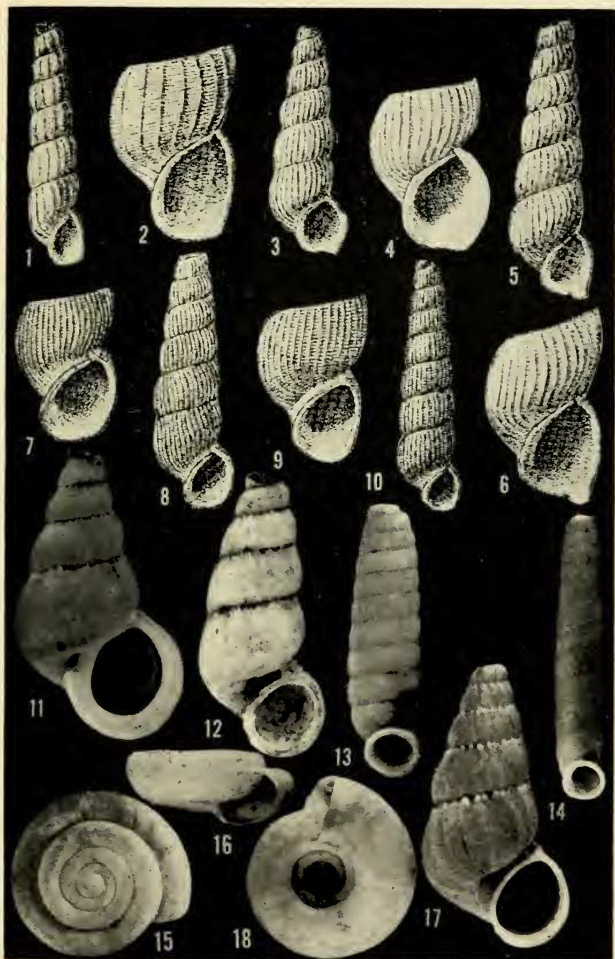


Plate 91